Mode: All
Left file: C:\Users\scart\Desktop\test_640.asm Right file: C:\Users\scart\Desktop\test_1280.asm

.FILE C:\PROJEKTY\AVR\AVRCO\TEST_XX\test	=	.FILE C:\PROJEKTY\AVR\AVRCO\TEST_XX\test	
; Compiled by E-LAB AVRco PASCAL Compiler Re		; Compiled by E-LAB AVRco PASCAL Compiler Re	
; Version : Demo		; Version : Demo	
;		;	
; Licenced to : Demo Version		; Licenced to : Demo Version	
;		;	
; (c), Grombacherstr. 27 e-mail info@e-lab.		; (c), Grombacherstr. 27 e-mail info@e-lab.	
; D-74906 Bad Rappenau Tel. 07268/9124-0 Fa		; D-74906 Bad Rappenau Tel. 07268/9124-0 Fa	
; ++		; ++	
; Source File : test.PAS		; Source File : test.PAS	
; Compiled : 05. listopad 2016 19:48:56	<>	; Compiled : 05. listopad 2016 19:50:08	
; ++	=	; ++	
.MEDIUM		.MEDIUM	
.ROMEND 0FFFFh;	<>	.ROMEND 1FFFFh;	
.EEPROMEND 00FFFh;	=	.EEPROMEND 00FFFh;	
; ++		; ++	
; Constants and Variables definition		; Constants and Variables definition	
; ++		; ++	
; === Internal used memory and constants ===		; === Internal used memory and constants ===	
FALSE .EQU 000h ; const		FALSE .EQU 000h ; const	
TRUE .EQU 0FFh ; const		TRUE .EQU 0FFh ; const	
NIL .EQU 000h ; const		NIL .EQU 000h ; const	
PI .EQU 000h ; const		PI .EQU 000h ; const	
COMPILERREV .EQU 1FDh ; const		COMPILERREV .EQU 1FDh ; const	
COMPILERBUILD_Y .EQU 010h ; const		COMPILERBUILD_Y .EQU 010h ; const	
COMPILERBUILD_M .EQU 00Ah ; const		COMPILERBUILD_M .EQU 00Ah ; const	
COMPILERBUILD_D .EQU 017h ; const		COMPILERBUILD_D .EQU 017h ; const	
COMPILEYEAR .EQU 010h ; const		COMPILEYEAR .EQU 010h ; const	
COMPILEMONTH .EQU 00Bh ; const		COMPILEMONTH .EQU 00Bh ; const	

COMPILEDAY .EQU 005h ; const	COMPILEDAY .EQU 005h ; const
COMPILEHOUR .EQU 013h ; const	COMPILEHOUR .EQU 013h ; const
COMPILEMINUTE .EQU 030h ; const	COMPILEMINUTE .EQU 032h ; const
PROJECTBUILD .EQU 03Eh ; const	PROJECTBUILD .EQU 03Fh ; const
OPTIMISERREV .EQU 0304h ; const	OPTIMISERREV .EQU 0304h ; const
OPTIMISERBUILD .EQU 0201h ; const	OPTIMISERBUILD .EQU 0201h ; const
INTFLAG .EQU 007h ; const	INTFLAG .EQU 007h ; const
_EEPROM .EQU 006h ; const	_EEPROM .EQU 006h ; const
_SIGN .EQU 005h ; const	_SIGN .EQU 005h ; const
_WAITLCD .EQU 004h ; const	_WAITLCD .EQU 004h ; const
_STRCONST .EQU 004h ; const	_STRCONST .EQU 004h ; const
_DEVICE .EQU 003h ; const	_DEVICE .EQU 003h ; const
_NEGATIVE .EQU 002h ; const	_NEGATIVE .EQU 002h ; const
_ERRFLAG .EQU 001h ; const	_ERRFLAG .EQU 001h ; const
_I2C2BYTE .EQU 000h ; const	_I2C2BYTE .EQU 000h ; const
_TOGGLE300 .EQU 000h ; const	_TOGGLE300 .EQU 000h ; const
_LCDLOWER .EQU 001h ; const	_LCDLOWER .EQU 001h ; const
_DSP7RFR .EQU 002h ; const	_DSP7RFR .EQU 002h ; const
_PWRSAVFLG .EQU 003h ; const	_PWRSAVFLG .EQU 003h ; const
_F64StrInt .EQU 004h ; const	_F64StrInt .EQU 004h ; const
_F64StrFrac .EQU 005h ; const	_F64StrFrac .EQU 005h ; const
_FREQCNTFLAG .EQU 006h ; const	_FREQCNTFLAG .EQU 006h ; const
_AUTOACK .EQU 007h ; const	_AUTOACK .EQU 007h ; const
_ACCGLO .EQU 000h ; var Data byte	_ACCGLO .EQU 000h ; var Data byte
_ACCGHI .EQU 001h ; var Data byte	_ACCGHI .EQU 001h ; var Data byte
_ACCB .EQU 010h ; var Data byte	_ACCB .EQU 010h ; var Data byte
_ACCA .EQU 011h ; var Data byte	_ACCA .EQU 011h ; var Data byte
_ACCALO .EQU 012h ; var Data byte	_ACCALO .EQU 012h ; var Data byte
_ACCAHI .EQU 013h ; var Data byte	_ACCAHI .EQU 013h ; var Data byte
_ACCDLO .EQU 014h ; var Data byte	_ACCDLO .EQU 014h ; var Data byte
_ACCDHI .EQU 015h ; var Data byte	_ACCDHI .EQU 015h ; var Data byte
_ACCELO .EQU 016h ; var Data byte	_ACCELO .EQU 016h ; var Data byte
_ACCEHI .EQU 017h ; var Data byte	_ACCEHI .EQU 017h ; var Data byte
_ACCFLO .EQU 018h ; var Data byte	_ACCFLO .EQU 018h ; var Data byte
_ACCFHI .EQU 019h ; var Data byte	_ACCFHI .EQU 019h ; var Data byte
_ACCBLO .EQU 01Ah ; var Data byte	_ACCBLO .EQU 01Ah ; var Data byte
_ACCBHI .EQU 01Bh ; var Data byte	_ACCBHI .EQU 01Bh ; var Data byte
_FRAMEPTR .EQU 01Ch ; var Data byte	_FRAMEPTR .EQU 01Ch ; var Data byte

_FPTRHI	.EQU	01Dh	; var Data	byte		_FPTRHI	.EQU	01Dh	; var Data	byte
_ACCCLO	.EQU	01Eh	; var Data	byte		_ACCCLO	.EQU	01Eh	; var Data	byte
_ACCCHI	.EQU	01Fh	; var Data	byte		_ACCCHI	.EQU	01Fh	; var Data	byte
$_SAVERET	.EQU	002h	; var Data	byte		$_SAVERET	.EQU	002h	; var Data	byte
$_SAVERET1	.EQU	003h	; var Data	byte		$_SAVERET1	.EQU	003h	; var Data	byte
FLAGS	.EQU	004h	; var Data	byte		FLAGS	.EQU	004h	; var Data	byte
FLAGS2	.EQU	005h	; var Data	byte		FLAGS2	.EQU	005h	; var Data	byte
_SYSTFLAGS	.EQU	006h	; var Data	byte		_SYSTFLAGS	.EQU	006h	; var Data	byte
SYSTICK	.EQU	00Ah	; const			SYSTICK	.EQU	00Ah	; const	
PROCCLOCK	.EQU	0F42400h	; const			PROCCLOCK	.EQU	0F42400h	; const	
DECIMALSEP	.EQU	02Eh	; const			DECIMALSEP	.EQU	02Eh	; const	
CPU_ID	.EQU	1E9608h	; const		<>	CPU_ID	.EQU	1E9703h	; const	
Flash_Page_Size	.EQU	100h	; const		=	Flash_Page_Size	.EQU	100h	; const	
ROMconstPage	.EQU	0FFFFFFFFFFFFFFFFh		; const		ROMconstPage	.EQU	0FFFFFFFFFFFFFFFFh		; const
STACKSIZE	.EQU	0FFh	; const			STACKSIZE	.EQU	0FFh	; const	
FRAMESIZE	.EQU	0FFh	; const			FRAMESIZE	.EQU	0FFh	; const	
UDR3	.EQU	136h	; var iData	byte		UDR3	.EQU	136h	; var iData	byte
UBRR3H	.EQU	135h	; var iData	byte		UBRR3H	.EQU	135h	; var iData	byte
UBRR3L	.EQU	134h	; var iData	byte		UBRR3L	.EQU	134h	; var iData	byte
UCSR3C	.EQU	132h	; var iData	byte		UCSR3C	.EQU	132h	; var iData	byte
UCSR3B	.EQU	131h	; var iData	byte		UCSR3B	.EQU	131h	; var iData	byte
UCSR3A	.EQU	130h	; var iData	byte		UCSR3A	.EQU	130h	; var iData	byte
OCR5CH	.EQU	12Dh	; var iData	byte		OCR5CH	.EQU	12Dh	; var iData	byte
OCR5CL	.EQU	12Ch	; var iData	byte		OCR5CL	.EQU	12Ch	; var iData	byte
OCR5BH	.EQU	12Bh	; var iData	byte		OCR5BH	.EQU	12Bh	; var iData	byte
OCR5BL	.EQU	12Ah	; var iData	byte		OCR5BL	.EQU	12Ah	; var iData	byte
OCR5AH	.EQU	129h	; var iData	byte		OCR5AH	.EQU	129h	; var iData	byte
OCR5AL	.EQU	128h	; var iData	byte		OCR5AL	.EQU	128h	; var iData	byte
ICR5H	.EQU	127h	; var iData	byte		ICR5H	.EQU	127h	; var iData	byte
ICR5L	.EQU	126h	; var iData	byte		ICR5L	.EQU	126h	; var iData	byte
TCNT5H	.EQU	125h	; var iData	byte		TCNT5H	.EQU	125h	; var iData	byte
TCNT5L	.EQU	124h	; var iData	byte		TCNT5L	.EQU	124h	; var iData	byte
TCCR5C	.EQU	122h	; var iData	byte		TCCR5C	.EQU	122h	; var iData	byte
TCCR5B	.EQU	121h	; var iData	byte		TCCR5B	.EQU	121h	; var iData	byte
TCCR5A	.EQU	120h	; var iData	byte		TCCR5A	.EQU	120h	; var iData	byte
PORTL	.EQU	10Bh	; var iData	byte		PORTL	.EQU	10Bh	; var iData	byte
DDRL	.EQU	10Ah	; var iData	byte		DDRL	.EQU	10Ah	; var iData	byte
PINL	.EQU	109h	; var iData	byte		PINL	.EQU	109h	; var iData	byte

Left file: C:\Users\scart\Desktop\test_640.asm Right file: C:\Users\scart\Desktop\test_1280.asm (continued)

PORTK	.EQU	108h	; var iData byte		PORTK	.EQU	108h	; var iData byte
DDRK	.EQU	107h	; var iData byte		DDRK	.EQU	107h	; var iData byte
PINK	.EQU	106h	; var iData byte		PINK	.EQU	106h	; var iData byte
PORTJ	.EQU	105h	; var iData byte		PORTJ	.EQU	105h	; var iData byte
DDRJ	.EQU	104h	; var iData byte		DDRJ	.EQU	104h	; var iData byte
PINJ	.EQU	103h	; var iData byte		PINJ	.EQU	103h	; var iData byte
PORTH	.EQU	102h	; var iData byte		PORTH	.EQU	102h	; var iData byte
DDRH	.EQU	101h	; var iData byte		DDRH	.EQU	101h	; var iData byte
PINH	.EQU	100h	; var iData byte		PINH	.EQU	100h	; var iData byte
UDR2	.EQU	0D6h	; var iData byte		UDR2	.EQU	0D6h	; var iData byte
UBRR2H	.EQU	0D5h	; var iData byte		UBRR2H	.EQU	0D5h	; var iData byte
UBRR2L	.EQU	0D4h	; var iData byte		UBRR2L	.EQU	0D4h	; var iData byte
UCSR2C	.EQU	0D2h	; var iData byte		UCSR2C	.EQU	0D2h	; var iData byte
UCSR2B	.EQU	0D1h	; var iData byte		UCSR2B	.EQU	0D1h	; var iData byte
UCSR2A	.EQU	0D0h	; var iData byte		UCSR2A	.EQU	0D0h	; var iData byte
UDR1	.EQU	0CEh	; var iData byte		UDR1	.EQU	0CEh	; var iData byte
UBRR1H	.EQU	0CDh	; var iData byte		UBRR1H	.EQU	0CDh	; var iData byte
UBRR1L	.EQU	0CCh	; var iData byte		UBRR1L	.EQU	0CCh	; var iData byte
UCSR1C	.EQU	0CAh	; var iData byte		UCSR1C	.EQU	0CAh	; var iData byte
UCSR1B	.EQU	0C9h	; var iData byte		UCSR1B	.EQU	0C9h	; var iData byte
UCSR1A	.EQU	0C8h	; var iData byte		UCSR1A	.EQU	0C8h	; var iData byte
UDR0	.EQU	0C6h	; var iData byte		UDR0	.EQU	0C6h	; var iData byte
UBRR0H	.EQU	0C5h	; var iData byte		UBRR0H	.EQU	0C5h	; var iData byte
UBRR0L	.EQU	0C4h	; var iData byte		UBRR0L	.EQU	0C4h	; var iData byte
UCSR0C	.EQU	0C2h	; var iData byte		UCSR0C	.EQU	0C2h	; var iData byte
UCSR0B	.EQU	0C1h	; var iData byte		UCSR0B	.EQU	0C1h	; var iData byte
UCSR0A	.EQU	0C0h	; var iData byte		UCSR0A	.EQU	0C0h	; var iData byte
TWAMR	.EQU	0BDh	; var iData byte		TWAMR	.EQU	0BDh	; var iData byte
TWCR	.EQU	0BCh	; var iData byte		TWCR	.EQU	0BCh	; var iData byte
TWDR	.EQU	0BBh	; var iData byte		TWDR	.EQU	0BBh	; var iData byte
TWAR	.EQU	0BAh	; var iData byte		TWAR	.EQU	0BAh	; var iData byte
TWSR	.EQU	0B9h	; var iData byte		TWSR	.EQU	0B9h	; var iData byte
TWBR	.EQU	0B8h	; var iData byte		TWBR	.EQU	0B8h	; var iData byte
ASSR	.EQU	050h	; var pData byte	<>	ASSR	.EQU	0B6h	; var iData byte
OCR2B	.EQU	0B4h	; var iData byte	=	OCR2B	.EQU	0B4h	; var iData byte
OCR2	.EQU	0B3h	; var iData byte		OCR2	.EQU	0B3h	; var iData byte
OCR2A	.EQU	0B3h	; var iData byte		OCR2A	.EQU	0B3h	; var iData byte
TCNT2	.EQU	0B2h	; var iData byte		TCNT2	.EQU	0B2h	; var iData byte

```
TCCR2B          .EQU    0B1h            ; var iData  byte
TCCR2           .EQU    0B1h            ; var iData  byte
TCCR2A          .EQU    0B0h            ; var iData  byte
OCR4CH          .EQU    0ADh            ; var iData  byte
OCR4CL          .EQU    0ACh            ; var iData  byte
OCR4BH          .EQU    0ABh            ; var iData  byte
OCR4BL          .EQU    0AAh            ; var iData  byte
OCR4AH          .EQU    0A9h            ; var iData  byte
OCR4AL          .EQU    0A8h            ; var iData  byte
ICR4H           .EQU    0A7h            ; var iData  byte
ICR4L           .EQU    0A6h            ; var iData  byte
TCNT4H          .EQU    0A5h            ; var iData  byte
TCNT4L          .EQU    0A4h            ; var iData  byte
TCCR4C          .EQU    0A2h            ; var iData  byte
TCCR4B          .EQU    0A1h            ; var iData  byte
TCCR4A          .EQU    0A0h            ; var iData  byte
OCR3CH          .EQU    09Dh            ; var iData  byte
OCR3CL          .EQU    09Ch            ; var iData  byte
OCR3BH          .EQU    09Bh            ; var iData  byte
OCR3BL          .EQU    09Ah            ; var iData  byte
OCR3AH          .EQU    099h            ; var iData  byte
OCR3AL          .EQU    098h            ; var iData  byte
ICR3H           .EQU    097h            ; var iData  byte
ICR3L           .EQU    096h            ; var iData  byte
TCNT3H          .EQU    095h            ; var iData  byte
TCNT3L          .EQU    094h            ; var iData  byte
TCCR3C          .EQU    092h            ; var iData  byte
TCCR3B          .EQU    091h            ; var iData  byte
TCCR3A          .EQU    090h            ; var iData  byte
OCR1CH          .EQU    08Dh            ; var iData  byte
OCR1CL          .EQU    08Ch            ; var iData  byte
OCR1BH          .EQU    08Bh            ; var iData  byte
OCR1BL          .EQU    08Ah            ; var iData  byte
OCR1AH          .EQU    089h            ; var iData  byte
OCR1AL          .EQU    088h            ; var iData  byte
ICR1H           .EQU    087h            ; var iData  byte
ICR1L           .EQU    086h            ; var iData  byte
TCNT1H          .EQU    085h            ; var iData  byte
```

```
TCCR2B          .EQU    0B1h            ; var iData  byte
TCCR2           .EQU    0B1h            ; var iData  byte
TCCR2A          .EQU    0B0h            ; var iData  byte
OCR4CH          .EQU    0ADh            ; var iData  byte
OCR4CL          .EQU    0ACh            ; var iData  byte
OCR4BH          .EQU    0ABh            ; var iData  byte
OCR4BL          .EQU    0AAh            ; var iData  byte
OCR4AH          .EQU    0A9h            ; var iData  byte
OCR4AL          .EQU    0A8h            ; var iData  byte
ICR4H           .EQU    0A7h            ; var iData  byte
ICR4L           .EQU    0A6h            ; var iData  byte
TCNT4H          .EQU    0A5h            ; var iData  byte
TCNT4L          .EQU    0A4h            ; var iData  byte
TCCR4C          .EQU    0A2h            ; var iData  byte
TCCR4B          .EQU    0A1h            ; var iData  byte
TCCR4A          .EQU    0A0h            ; var iData  byte
OCR3CH          .EQU    09Dh            ; var iData  byte
OCR3CL          .EQU    09Ch            ; var iData  byte
OCR3BH          .EQU    09Bh            ; var iData  byte
OCR3BL          .EQU    09Ah            ; var iData  byte
OCR3AH          .EQU    099h            ; var iData  byte
OCR3AL          .EQU    098h            ; var iData  byte
ICR3H           .EQU    097h            ; var iData  byte
ICR3L           .EQU    096h            ; var iData  byte
TCNT3H          .EQU    095h            ; var iData  byte
TCNT3L          .EQU    094h            ; var iData  byte
TCCR3C          .EQU    092h            ; var iData  byte
TCCR3B          .EQU    091h            ; var iData  byte
TCCR3A          .EQU    090h            ; var iData  byte
OCR1CH          .EQU    08Dh            ; var iData  byte
OCR1CL          .EQU    08Ch            ; var iData  byte
OCR1BH          .EQU    08Bh            ; var iData  byte
OCR1BL          .EQU    08Ah            ; var iData  byte
OCR1AH          .EQU    089h            ; var iData  byte
OCR1AL          .EQU    088h            ; var iData  byte
ICR1H           .EQU    087h            ; var iData  byte
ICR1L           .EQU    086h            ; var iData  byte
TCNT1H          .EQU    085h            ; var iData  byte
```

```
TCNT1L          .EQU    084h            ; var iData  byte
TCCR1C          .EQU    082h            ; var iData  byte
TCCR1B          .EQU    081h            ; var iData  byte
TCCR1A          .EQU    080h            ; var iData  byte
DIDR1           .EQU    07Fh            ; var iData  byte
DIDR0           .EQU    07Eh            ; var iData  byte
DIDR2           .EQU    07Dh            ; var iData  byte
ADMUX           .EQU    07Ch            ; var iData  byte
ADCSRB          .EQU    07Bh            ; var iData  byte
ADCSR           .EQU    07Ah            ; var iData  byte
ADCSRA          .EQU    07Ah            ; var iData  byte
ADCH            .EQU    079h            ; var iData  byte
ADCL            .EQU    078h            ; var iData  byte
XMCRB           .EQU    075h            ; var iData  byte
XMCRA           .EQU    074h            ; var iData  byte
TIMSK5          .EQU    073h            ; var iData  byte
TIMSK4          .EQU    072h            ; var iData  byte
TIMSK3          .EQU    071h            ; var iData  byte
TIMSK2          .EQU    070h            ; var iData  byte
TIMSK1          .EQU    06Fh            ; var iData  byte
TIMSK0          .EQU    06Eh            ; var iData  byte
PCMSK2          .EQU    06Dh            ; var iData  byte
PCMSK1          .EQU    06Ch            ; var iData  byte
PCMSK0          .EQU    06Bh            ; var iData  byte
EICRB           .EQU    06Ah            ; var iData  byte
EICRA           .EQU    069h            ; var iData  byte
PCICR           .EQU    068h            ; var iData  byte
OSCCAL          .EQU    066h            ; var iData  byte
PRR1            .EQU    065h            ; var iData  byte
PRR0            .EQU    064h            ; var iData  byte
CLKPR           .EQU    061h            ; var iData  byte
WDTCR           .EQU    060h            ; var iData  byte
WDTCSR          .EQU    060h            ; var iData  byte
SREG            .EQU    05Fh            ; var pData  byte
SPH             .EQU    05Eh            ; var pData  byte
SPL             .EQU    05Dh            ; var pData  byte
EIND            .EQU    05Ch            ; var pData  byte
RAMPZ           .EQU    05Bh            ; var pData  byte
```

```
TCNT1L          .EQU    084h            ; var iData  byte
TCCR1C          .EQU    082h            ; var iData  byte
TCCR1B          .EQU    081h            ; var iData  byte
TCCR1A          .EQU    080h            ; var iData  byte
DIDR1           .EQU    07Fh            ; var iData  byte
DIDR0           .EQU    07Eh            ; var iData  byte
DIDR2           .EQU    07Dh            ; var iData  byte
ADMUX           .EQU    07Ch            ; var iData  byte
ADCSRB          .EQU    07Bh            ; var iData  byte
ADCSR           .EQU    07Ah            ; var iData  byte
ADCSRA          .EQU    07Ah            ; var iData  byte
ADCH            .EQU    079h            ; var iData  byte
ADCL            .EQU    078h            ; var iData  byte
XMCRB           .EQU    075h            ; var iData  byte
XMCRA           .EQU    074h            ; var iData  byte
TIMSK5          .EQU    073h            ; var iData  byte
TIMSK4          .EQU    072h            ; var iData  byte
TIMSK3          .EQU    071h            ; var iData  byte
TIMSK2          .EQU    070h            ; var iData  byte
TIMSK1          .EQU    06Fh            ; var iData  byte
TIMSK0          .EQU    06Eh            ; var iData  byte
PCMSK2          .EQU    06Dh            ; var iData  byte
PCMSK1          .EQU    06Ch            ; var iData  byte
PCMSK0          .EQU    06Bh            ; var iData  byte
EICRB           .EQU    06Ah            ; var iData  byte
EICRA           .EQU    069h            ; var iData  byte
PCICR           .EQU    068h            ; var iData  byte
OSCCAL          .EQU    066h            ; var iData  byte
PRR1            .EQU    065h            ; var iData  byte
PRR0            .EQU    064h            ; var iData  byte
CLKPR           .EQU    061h            ; var iData  byte
WDTCR           .EQU    060h            ; var iData  byte
WDTCSR          .EQU    060h            ; var iData  byte
SREG            .EQU    05Fh            ; var pData  byte
SPH             .EQU    05Eh            ; var pData  byte
SPL             .EQU    05Dh            ; var pData  byte
EIND            .EQU    05Ch            ; var pData  byte
RAMPZ           .EQU    05Bh            ; var pData  byte
```

```
SPMCSR          .EQU    057h            ; var pData  byte
SPMCR           .EQU    057h            ; var pData  byte
MCUCR           .EQU    055h            ; var pData  byte
MCUCSR          .EQU    054h            ; var pData  byte
MCUSR           .EQU    054h            ; var pData  byte
SMCR            .EQU    053h            ; var pData  byte
OCDR            .EQU    051h            ; var pData  byte
MONDR           .EQU    051h            ; var pData  byte
ACSR            .EQU    050h            ; var pData  byte
SPDR            .EQU    04Eh            ; var pData  byte
SPSR            .EQU    04Dh            ; var pData  byte
SPCR            .EQU    04Ch            ; var pData  byte
GPIOR2          .EQU    04Bh            ; var pData  byte
GPIOR1          .EQU    04Ah            ; var pData  byte
OCR0B           .EQU    048h            ; var pData  byte
OCR0            .EQU    047h            ; var pData  byte
OCR0A           .EQU    047h            ; var pData  byte
TCNT0           .EQU    046h            ; var pData  byte
TCCR0B          .EQU    045h            ; var pData  byte
TCCR0           .EQU    045h            ; var pData  byte
TCCR0A          .EQU    044h            ; var pData  byte
GTCCR           .EQU    043h            ; var pData  byte
EEARH           .EQU    042h            ; var pData  byte
EEARL           .EQU    041h            ; var pData  byte
EEDR            .EQU    040h            ; var pData  byte
EECR            .EQU    03Fh            ; var pData  byte
GPIOR0          .EQU    03Eh            ; var pData  byte
EIMSK           .EQU    03Dh            ; var pData  byte
EIFR            .EQU    03Ch            ; var pData  byte
PCIFR           .EQU    03Bh            ; var pData  byte
TIFR5           .EQU    03Ah            ; var pData  byte
TIFR4           .EQU    039h            ; var pData  byte
TIFR3           .EQU    038h            ; var pData  byte
TIFR2           .EQU    037h            ; var pData  byte
TIFR1           .EQU    036h            ; var pData  byte
TIFR0           .EQU    035h            ; var pData  byte
PORTG           .EQU    034h            ; var pData  byte
DDRG            .EQU    033h            ; var pData  byte
```

```
SPMCSR          .EQU    057h            ; var pData  byte
SPMCR           .EQU    057h            ; var pData  byte
MCUCR           .EQU    055h            ; var pData  byte
MCUCSR          .EQU    054h            ; var pData  byte
MCUSR           .EQU    054h            ; var pData  byte
SMCR            .EQU    053h            ; var pData  byte
OCDR            .EQU    051h            ; var pData  byte
MONDR           .EQU    051h            ; var pData  byte
ACSR            .EQU    050h            ; var pData  byte
SPDR            .EQU    04Eh            ; var pData  byte
SPSR            .EQU    04Dh            ; var pData  byte
SPCR            .EQU    04Ch            ; var pData  byte
GPIOR2          .EQU    04Bh            ; var pData  byte
GPIOR1          .EQU    04Ah            ; var pData  byte
OCR0B           .EQU    048h            ; var pData  byte
OCR0            .EQU    047h            ; var pData  byte
OCR0A           .EQU    047h            ; var pData  byte
TCNT0           .EQU    046h            ; var pData  byte
TCCR0B          .EQU    045h            ; var pData  byte
TCCR0           .EQU    045h            ; var pData  byte
TCCR0A          .EQU    044h            ; var pData  byte
GTCCR           .EQU    043h            ; var pData  byte
EEARH           .EQU    042h            ; var pData  byte
EEARL           .EQU    041h            ; var pData  byte
EEDR            .EQU    040h            ; var pData  byte
EECR            .EQU    03Fh            ; var pData  byte
GPIOR0          .EQU    03Eh            ; var pData  byte
EIMSK           .EQU    03Dh            ; var pData  byte
EIFR            .EQU    03Ch            ; var pData  byte
PCIFR           .EQU    03Bh            ; var pData  byte
TIFR5           .EQU    03Ah            ; var pData  byte
TIFR4           .EQU    039h            ; var pData  byte
TIFR3           .EQU    038h            ; var pData  byte
TIFR2           .EQU    037h            ; var pData  byte
TIFR1           .EQU    036h            ; var pData  byte
TIFR0           .EQU    035h            ; var pData  byte
PORTG           .EQU    034h            ; var pData  byte
DDRG            .EQU    033h            ; var pData  byte
```

PING	.EQU	032h	; var	pData	byte		PING	.EQU	032h	; var	pData byte
PORTF	.EQU	031h	; var	pData	byte		PORTF	.EQU	031h	; var	pData byte
DDRF	.EQU	030h	; var	pData	byte		DDRF	.EQU	030h	; var	pData byte
PINF	.EQU	02Fh	; var	pData	byte		PINF	.EQU	02Fh	; var	pData byte
PORTE	.EQU	02Eh	; var	pData	byte		PORTE	.EQU	02Eh	; var	pData byte
DDRE	.EQU	02Dh	; var	pData	byte		DDRE	.EQU	02Dh	; var	pData byte
PINE	.EQU	02Ch	; var	pData	byte		PINE	.EQU	02Ch	; var	pData byte
PORTD	.EQU	02Bh	; var	pData	byte		PORTD	.EQU	02Bh	; var	pData byte
DDRD	.EQU	02Ah	; var	pData	byte		DDRD	.EQU	02Ah	; var	pData byte
PIND	.EQU	029h	; var	pData	byte		PIND	.EQU	029h	; var	pData byte
PORTC	.EQU	028h	; var	pData	byte		PORTC	.EQU	028h	; var	pData byte
DDRC	.EQU	027h	; var	pData	byte		DDRC	.EQU	027h	; var	pData byte
PINC	.EQU	026h	; var	pData	byte		PINC	.EQU	026h	; var	pData byte
PORTB	.EQU	025h	; var	pData	byte		PORTB	.EQU	025h	; var	pData byte
DDRB	.EQU	024h	; var	pData	byte		DDRB	.EQU	024h	; var	pData byte
PINB	.EQU	023h	; var	pData	byte		PINB	.EQU	023h	; var	pData byte
PORTA	.EQU	022h	; var	pData	byte		PORTA	.EQU	022h	; var	pData byte
DDRA	.EQU	021h	; var	pData	byte		DDRA	.EQU	021h	; var	pData byte
PINA	.EQU	020h	; var	pData	byte		PINA	.EQU	020h	; var	pData byte
TCNT5	.EQU	124h	; var	iData	word		TCNT5	.EQU	124h	; var	iData word
OCR5A	.EQU	128h	; var	iData	word		OCR5A	.EQU	128h	; var	iData word
OCR5B	.EQU	12Ah	; var	iData	word		OCR5B	.EQU	12Ah	; var	iData word
OCR5C	.EQU	12Ch	; var	iData	word		OCR5C	.EQU	12Ch	; var	iData word
ICR5	.EQU	126h	; var	iData	word		ICR5	.EQU	126h	; var	iData word
TCNT4	.EQU	0A4h	; var	iData	word		TCNT4	.EQU	0A4h	; var	iData word
OCR4A	.EQU	0A8h	; var	iData	word		OCR4A	.EQU	0A8h	; var	iData word
OCR4B	.EQU	0AAh	; var	iData	word		OCR4B	.EQU	0AAh	; var	iData word
OCR4C	.EQU	0ACh	; var	iData	word		OCR4C	.EQU	0ACh	; var	iData word
ICR4	.EQU	0A6h	; var	iData	word		ICR4	.EQU	0A6h	; var	iData word
TCNT3	.EQU	095h	; var	iData	word	<>	TCNT3	.EQU	094h	; var	iData word
OCR3A	.EQU	098h	; var	iData	word	=	OCR3A	.EQU	098h	; var	iData word
OCR3B	.EQU	09Ah	; var	iData	word		OCR3B	.EQU	09Ah	; var	iData word
OCR3C	.EQU	09Ch	; var	iData	word		OCR3C	.EQU	09Ch	; var	iData word
ICR3	.EQU	096h	; var	iData	word		ICR3	.EQU	096h	; var	iData word
OCR1C	.EQU	08Ch	; var	iData	word		OCR1C	.EQU	08Ch	; var	iData word
TCNT1	.EQU	084h	; var	iData	word		TCNT1	.EQU	084h	; var	iData word
OCR1A	.EQU	088h	; var	iData	word		OCR1A	.EQU	088h	; var	iData word
OCR1B	.EQU	08Ah	; var	iData	word		OCR1B	.EQU	08Ah	; var	iData word

```
ICR1                    .EQU    086h            ; var iData  word   =  ICR1                    .EQU    086h            ; var iData  word
EEAR                    .EQU    041h            ; var pData  word   =  EEAR                    .EQU    041h            ; var pData  word
ADC                     .EQU    078h            ; var iData  word   =  ADC                     .EQU    078h            ; var iData  word
_iDataStart             .EQU    200h            ; const             =  _iDataStart             .EQU    200h            ; const
_iDataEnd               .EQU    21FFh           ; const             =  _iDataEnd               .EQU    21FFh           ; const
_EEpromStart            .EQU    000h            ; const             =  _EEpromStart            .EQU    000h            ; const
_EEpromEnd              .EQU    0FFFh           ; const             =  _EEpromEnd              .EQU    0FFFh           ; const
_FlashStart             .EQU    000h            ; const             =  _FlashStart             .EQU    000h            ; const
_FlashEnd               .EQU    0FFFFh          ; const             <>  _FlashEnd              .EQU    1FFFFh          ; const
SysTickTime             .EQU    200h            ; var iData  byte   =  SysTickTime             .EQU    200h            ; var iData  byte
EEPROM                  .EQU    000h            ; var EEprom array  =  EEPROM                  .EQU    000h            ; var EEprom array
EEPROMEND               .EQU    0FFFh           ; const             =  EEPROMEND               .EQU    0FFFh           ; const
                                                                    =
                                                                    =
                                                                    =
                        .RESET      000000h                         =                          .RESET      000000h
                        .ORG        000000h, CODE_START             =                          .ORG        000000h, CODE_START
;_STARTCODE                                                         =  ;_STARTCODE
                        .STARTCODE 0000E4h                          =                          .STARTCODE 0000E4h
                                                                    =
                        .UNIT      LCD_Test                         =                          .UNIT      LCD_Test
                                                                    =
                        .XDATASTART -1                              =                          .XDATASTART -1
                                                                    =
                                                                    =
                        ; ============ user definitions module: LCD_=                          ; ============ user definitions module: LCD_
                                                                    =
                                                                    =
                                                                    =
                        ; ++++++++++++++++++++++++++++++++++++++++++=                          ; ++++++++++++++++++++++++++++++++++++++++++
                        ; Program body                              =                          ; Program body
                        ; ++++++++++++++++++++++++++++++++++++++++++=                          ; ++++++++++++++++++++++++++++++++++++++++++
                                                                    =
                        .FUNC      $_Main, 00018h, 00020h           =                          .FUNC      $_Main, 00018h, 00020h
                        .ENTRYMAIN $                                =                          .ENTRYMAIN $
LCD_Test.$_Main:                                                    =  LCD_Test.$_Main:
                                                                    =
                        .BLOCK     24                               =                          .BLOCK     24
```

```
                        .LINE     25
                        LDI       _ACCA, 1 SHLB IntFlag
                        OR        Flags, _ACCA
                        SEI
                        .LINE     26
                        PUSH      _FRAMEPTR
                        PUSH      _FPTRHI
                        LDI       _ACCA, 1 SHLB _DEVICE
                        OR        Flags, _ACCA
                        LDI       _ACCB, SYSTEM.LCDOut SHRB 1
                        LDI       _ACCA, SYSTEM.LCDOut SHRB 9
                        ST        -Y, _ACCA
                        ST        -Y, _ACCB
                        .FRAME  2
                        LDI       _ACCCLO, $St_String1 AND 0FFh
                        LDI       _ACCCHI, $St_String1 SHRB 8
                        RCALL     SYSTEM.StrConst2Str
                        POP       _FPTRHI
                        POP       _FRAMEPTR
                        .FRAME  0
LCD_Test._L0001:
                        .BLOCK    28
                        .ENDBLOCK 28
                        .LINE     28
                        .BRANCH   20,LCD_Test._L0001
                        RJMP      LCD_Test._L0001
                        .ENDBLOCK 30

LCD_Test.$_MAINEX:
                        .LINE     30
                        NOP
                        .LINE     30
                        .BRANCH   20,LCD_Test.$_MAINEX
                        RJMP      LCD_Test.$_MAINEX



                        .ENDFUNC  30
```

```
                        .LINE     25
                        LDI       _ACCA, 1 SHLB IntFlag
                        OR        Flags, _ACCA
                        SEI
                        .LINE     26
                        PUSH      _FRAMEPTR
                        PUSH      _FPTRHI
                        LDI       _ACCA, 1 SHLB _DEVICE
                        OR        Flags, _ACCA
                        LDI       _ACCB, SYSTEM.LCDOut SHRB 1
                        LDI       _ACCA, SYSTEM.LCDOut SHRB 9
                        ST        -Y, _ACCA
                        ST        -Y, _ACCB
                        .FRAME  2
                        LDI       _ACCCLO, $St_String1 AND 0FFh
                        LDI       _ACCCHI, $St_String1 SHRB 8
                        RCALL     SYSTEM.StrConst2Str
                        POP       _FPTRHI
                        POP       _FRAMEPTR
                        .FRAME  0
LCD_Test._L0001:
                        .BLOCK    28
                        .ENDBLOCK 28
                        .LINE     28
                        .BRANCH   20,LCD_Test._L0001
                        RJMP      LCD_Test._L0001
                        .ENDBLOCK 30

LCD_Test.$_MAINEX:
                        .LINE     30
                        NOP
                        .LINE     30
                        .BRANCH   20,LCD_Test.$_MAINEX
                        RJMP      LCD_Test.$_MAINEX



                        .ENDFUNC  30
```

```
SYSTEM.$Main_stk        .EQU    00201h          ; var iData  Process
SYSTEM.$Main_stk_e      .EQU    002FFh          ; var iData  Process
SYSTEM.$Main_reg        .EQU    00300h          ; var iData  Process
SYSTEM.$Main_reg_e      .EQU    00310h          ; var iData  Process
SYSTEM.$Main_Frame      .EQU    00311h          ; var iData  Process
SYSTEM.$Main_Frame_e    .EQU    0040Fh          ; var iData  Process

                        ; ++++++++++++++++++++++++++++++++++++++++++++
                        ; Initialisation and Library Routines
                        ; ++++++++++++++++++++++++++++++++++++++++++++

                        .ENTRY
SYSTEM.RESET:
```

```
SYSTEM.$Main_stk        .EQU    00201h          ; var iData  Process
SYSTEM.$Main_stk_e      .EQU    002FFh          ; var iData  Process
SYSTEM.$Main_reg        .EQU    00300h          ; var iData  Process
SYSTEM.$Main_reg_e      .EQU    00310h          ; var iData  Process
SYSTEM.$Main_Frame      .EQU    00311h          ; var iData  Process
SYSTEM.$Main_Frame_e    .EQU    0040Fh          ; var iData  Process

                        ; ++++++++++++++++++++++++++++++++++++++++++++
                        ; Initialisation and Library Routines
                        ; ++++++++++++++++++++++++++++++++++++++++++++

                        .ENTRY
SYSTEM.RESET:
```

```
-+
                        LDI     _ACCA, 01h
                        OUT     RAMPZ, _ACCA
```

```
=
                        CLI
                        ; >> Stack Init [main process only] <<
                        LDI     _ACCA, 002h
                        LDI     _ACCB, 0FFh
                        OUT     sph, _ACCA
                        OUT     spl, _ACCB

                        ; External SRAM control
                        LDS     _ACCA, xmcra
                        CBR     _ACCA, 0Fh
; one Peripheral sram-waits
                        SBR     _ACCA, 05h
                        STS     xmcra, _ACCA

                        ; >> Memory init <<
                        CLR     _ACCA
                        LDI     _ACCCLO, 16
                        LDI     _ACCCHI, 0
                        LDI     _ACCBLO, 0
                        LDI     _ACCBHI, 0
                        ADIW    _ACCCLO, 1
                        NOP
SYSTEM._L0003:
```

```
                        CLI
                        ; >> Stack Init [main process only] <<
                        LDI     _ACCA, 002h
                        LDI     _ACCB, 0FFh
                        OUT     sph, _ACCA
                        OUT     spl, _ACCB

                        ; External SRAM control
                        LDS     _ACCA, xmcra
                        CBR     _ACCA, 0Fh
; one Peripheral sram-waits
                        SBR     _ACCA, 05h
                        STS     xmcra, _ACCA

                        ; >> Memory init <<
                        CLR     _ACCA
                        LDI     _ACCCLO, 16
                        LDI     _ACCCHI, 0
                        LDI     _ACCBLO, 0
                        LDI     _ACCBHI, 0
                        ADIW    _ACCCLO, 1
                        NOP
SYSTEM._L0003:
```

```
                        SBIW      _ACCCLO, 001h
                        BREQ      SYSTEM._L0005
                        ST        X+, _ACCA
                        RJMP      SYSTEM._L0003
SYSTEM._L0005:
                        LDI       _ACCBLO, 00200h AND 0FFh
                        LDI       _ACCBHI, 00200h SHRB 8
                        LDI       _ACCCLO, 02000h AND 0FFh
                        LDI       _ACCCHI, 02000h SHRB 8
                        ADIW      _ACCCLO, 1
                        NOP
SYSTEM._L0006:
                        SBIW      _ACCCLO, 001h
                        BREQ      SYSTEM._L0008
                        ST        X+, _ACCA
                        RJMP      SYSTEM._L0006
SYSTEM._L0008:
                        LDI       _FRAMEPTR, 0040Fh AND 0FFh
                        LDI       _FPTRHI, 0040Fh SHRB 8

                        CLI
                        LDI       _ACCA, 0FEH ROLB IntFlag
                        AND       Flags, _ACCA

                        ; ============ init structured constants ===
                        ; >> Hardware Init <<

                        ; >> SysTick init: 10msec <<
                        ; >> real SysTick (exact): 9.984 msec <<
                        LDI       _ACCA, 064h
                        STS       SysTickTime, _ACCA
                        OUT       tcnt0, _ACCA
                        LDI       _ACCA, 5
                        OUT       tccr0, _ACCA
                        LDI       _ACCA, 001h
                        STS       timsk0, _ACCA

                        ; >> LCD Init <<
```

```
                        SBIW      _ACCCLO, 001h
                        BREQ      SYSTEM._L0005
                        ST        X+, _ACCA
                        RJMP      SYSTEM._L0003
SYSTEM._L0005:
                        LDI       _ACCBLO, 00200h AND 0FFh
                        LDI       _ACCBHI, 00200h SHRB 8
                        LDI       _ACCCLO, 02000h AND 0FFh
                        LDI       _ACCCHI, 02000h SHRB 8
                        ADIW      _ACCCLO, 1
                        NOP
SYSTEM._L0006:
                        SBIW      _ACCCLO, 001h
                        BREQ      SYSTEM._L0008
                        ST        X+, _ACCA
                        RJMP      SYSTEM._L0006
SYSTEM._L0008:
                        LDI       _FRAMEPTR, 0040Fh AND 0FFh
                        LDI       _FPTRHI, 0040Fh SHRB 8

                        CLI
                        LDI       _ACCA, 0FEH ROLB IntFlag
                        AND       Flags, _ACCA

                        ; ============ init structured constants ===
                        ; >> Hardware Init <<

                        ; >> SysTick init: 10msec <<
                        ; >> real SysTick (exact): 9.984 msec <<
                        LDI       _ACCA, 064h
                        STS       SysTickTime, _ACCA
                        OUT       tcnt0, _ACCA
                        LDI       _ACCA, 5
                        OUT       tccr0, _ACCA
                        LDI       _ACCA, 001h
                        STS       timsk0, _ACCA

                        ; >> LCD Init <<
```

```
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 080h
                    OUT     022h, _ACCA
                    IN      _ACCA, 021h
                    ORI     _ACCA, 07Fh
                    OUT     021h, _ACCA
                    IN      _ACCA, 022h
                    ORI     _ACCA, 03h
                    OUT     022h, _ACCA
                    LDI     _ACCB, 16
                    CLR     _ACCA
                    RCALL   SYSTEM.MDELAY
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0011:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0011
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    OUT     022h, _ACCA
                    LDI     _ACCB, 5
                    CLR     _ACCA
                    RCALL   SYSTEM.MDELAY
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0012:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0012
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
```

```
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 080h
                    OUT     022h, _ACCA
                    IN      _ACCA, 021h
                    ORI     _ACCA, 07Fh
                    OUT     021h, _ACCA
                    IN      _ACCA, 022h
                    ORI     _ACCA, 03h
                    OUT     022h, _ACCA
                    LDI     _ACCB, 16
                    CLR     _ACCA
                    RCALL   SYSTEM.MDELAY
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0011:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0011
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    OUT     022h, _ACCA
                    LDI     _ACCB, 5
                    CLR     _ACCA
                    RCALL   SYSTEM.MDELAY
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0012:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0012
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
```

```
                    OUT     022h, _ACCA
                    LDI     _ACCB, 1
                    CLR     _ACCA
                    RCALL   SYSTEM.MDELAY
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0013:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0013
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    OUT     022h, _ACCA
                    LDI     _ACCA, 2
                    OUT     022h, _ACCA
                    LDI     _ACCB, 1
                    CLR     _ACCA
                    RCALL   SYSTEM.MDELAY
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0014:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0014
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    OUT     022h, _ACCA
                    LDI     _ACCB, 1
                    CLR     _ACCA
                    RCALL   SYSTEM.MDELAY
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
```

```
                    OUT     022h, _ACCA
                    LDI     _ACCB, 1
                    CLR     _ACCA
                    RCALL   SYSTEM.MDELAY
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0013:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0013
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    OUT     022h, _ACCA
                    LDI     _ACCA, 2
                    OUT     022h, _ACCA
                    LDI     _ACCB, 1
                    CLR     _ACCA
                    RCALL   SYSTEM.MDELAY
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0014:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0014
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    OUT     022h, _ACCA
                    LDI     _ACCB, 1
                    CLR     _ACCA
                    RCALL   SYSTEM.MDELAY
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
```

```
                        OUT       022h, _ACCA
                        PUSH      _ACCA
                        LDI       _ACCA, 30h
SYSTEM._L0015:
                        DEC       _ACCA
                        BRNE       SYSTEM._L0015
                        POP       _ACCA
                        IN        _ACCA, 022h
                        ANDI      _ACCA, 0EFh
                        OUT       022h, _ACCA
                        LDI       _ACCA, 8
                        OUT       022h, _ACCA
                        LDI       _ACCB, 1
                        CLR       _ACCA
                        RCALL     SYSTEM.MDELAY
                        IN        _ACCA, 022h
                        ORI       _ACCA, 10h
                        OUT       022h, _ACCA
                        PUSH      _ACCA
                        LDI       _ACCA, 30h
SYSTEM._L0016:
                        DEC       _ACCA
                        BRNE       SYSTEM._L0016
                        POP       _ACCA
                        IN        _ACCA, 022h
                        ANDI      _ACCA, 0EFh
                        OUT       022h, _ACCA
                        LDI       _ACCA, 0Ch
                        RCALL     SYSTEM.LCDCTRL
                        LDI       _ACCA, 1
                        RCALL     SYSTEM.LCDCTRL
                        LDI       _ACCA, 6
                        RCALL     SYSTEM.LCDCTRL

                        CLR       Flags
                        CLR       Flags2

                        ; ============ Start User Main Program =====
```

```
                        OUT       022h, _ACCA
                        PUSH      _ACCA
                        LDI       _ACCA, 30h
SYSTEM._L0015:
                        DEC       _ACCA
                        BRNE       SYSTEM._L0015
                        POP       _ACCA
                        IN        _ACCA, 022h
                        ANDI      _ACCA, 0EFh
                        OUT       022h, _ACCA
                        LDI       _ACCA, 8
                        OUT       022h, _ACCA
                        LDI       _ACCB, 1
                        CLR       _ACCA
                        RCALL     SYSTEM.MDELAY
                        IN        _ACCA, 022h
                        ORI       _ACCA, 10h
                        OUT       022h, _ACCA
                        PUSH      _ACCA
                        LDI       _ACCA, 30h
SYSTEM._L0016:
                        DEC       _ACCA
                        BRNE       SYSTEM._L0016
                        POP       _ACCA
                        IN        _ACCA, 022h
                        ANDI      _ACCA, 0EFh
                        OUT       022h, _ACCA
                        LDI       _ACCA, 0Ch
                        RCALL     SYSTEM.LCDCTRL
                        LDI       _ACCA, 1
                        RCALL     SYSTEM.LCDCTRL
                        LDI       _ACCA, 6
                        RCALL     SYSTEM.LCDCTRL

                        CLR       Flags
                        CLR       Flags2

                        ; ============ Start User Main Program =====
```

```
                        .DEB      MAINENTRY
                        RJMP      LCD_Test.$_Main

                        ; ============ Interrupt Service ===========

SYSTEM.$INTERRUPT_TIMER0:
                        .DEB      SYSTICKENTRY
                        PUSH      _ACCCLO
                        PUSH      _ACCCHI
                        PUSH      _ACCB
                        PUSH      _ACCA
                        IN        _ACCA, SREG
                        PUSH      _ACCA
                        LDS       _ACCA, SysTickTime
                        IN        _ACCB, tcnt0
                        ADD       _ACCA, _ACCB
                        OUT       tcnt0, _ACCA
                        LDI       _ACCA, 0FEH ROLB IntFlag
                        AND       Flags, _ACCA
                        LDI       _ACCA, 1 SHLB IntFlag
                        OR        Flags, _ACCA
                        POP       _ACCA
                        OUT       SREG, _ACCA
                        POP       _ACCA
                        POP       _ACCB
                        POP       _ACCCHI
                        POP       _ACCCLO
                        .DEB      SYSTICKEXIT
                        RETI


                        ; ============ Library ============

                        .DEB      LCDOUT
SYSTEM.LCDOUT:
                        PUSH      _ACCA
                        RCALL     SYSTEM.LCDWAIT
```

```
                        .DEB      MAINENTRY
                        RJMP      LCD_Test.$_Main

                        ; ============ Interrupt Service ===========

SYSTEM.$INTERRUPT_TIMER0:
                        .DEB      SYSTICKENTRY
                        PUSH      _ACCCLO
                        PUSH      _ACCCHI
                        PUSH      _ACCB
                        PUSH      _ACCA
                        IN        _ACCA, SREG
                        PUSH      _ACCA
                        LDS       _ACCA, SysTickTime
                        IN        _ACCB, tcnt0
                        ADD       _ACCA, _ACCB
                        OUT       tcnt0, _ACCA
                        LDI       _ACCA, 0FEH ROLB IntFlag
                        AND       Flags, _ACCA
                        LDI       _ACCA, 1 SHLB IntFlag
                        OR        Flags, _ACCA
                        POP       _ACCA
                        OUT       SREG, _ACCA
                        POP       _ACCA
                        POP       _ACCB
                        POP       _ACCCHI
                        POP       _ACCCLO
                        .DEB      SYSTICKEXIT
                        RETI


                        ; ============ Library ============

                        .DEB      LCDOUT
SYSTEM.LCDOUT:
                        PUSH      _ACCA
                        RCALL     SYSTEM.LCDWAIT
```

```
                    IN      _ACCA, 021h
                    ORI     _ACCA, 07Fh
                    OUT     021h, _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    ANDI    _ACCA, 090h
                    ORI     _ACCA, 020h
                    OUT     022h, _ACCA
                    RJMP    SYSTEM.LCDOUTX
                    .DEB    LCDCTRL
SYSTEM.LCDCTRL:
                    PUSH    _ACCA
                    RCALL   SYSTEM.LCDWAIT
                    IN      _ACCA, 021h
                    ORI     _ACCA, 07Fh
                    OUT     021h, _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    ANDI    _ACCA, 090h
                    OUT     022h, _ACCA
SYSTEM.LCDOUTX:
                    POP     _ACCA
                    PUSH    _ACCA
                    SWAP    _ACCA
                    ANDI    _ACCA, 0Fh
                    IN      _ACCB, 022h
                    OR      _ACCB, _ACCA
                    OUT     022h, _ACCB
                    POP     _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0017:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0017
                    POP     _ACCA
                    ORI     _ACCB, 10h
                    OUT     022h, _ACCB
                    PUSH    _ACCA
```

```
                    IN      _ACCA, 021h
                    ORI     _ACCA, 07Fh
                    OUT     021h, _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    ANDI    _ACCA, 090h
                    ORI     _ACCA, 020h
                    OUT     022h, _ACCA
                    RJMP    SYSTEM.LCDOUTX
                    .DEB    LCDCTRL
SYSTEM.LCDCTRL:
                    PUSH    _ACCA
                    RCALL   SYSTEM.LCDWAIT
                    IN      _ACCA, 021h
                    ORI     _ACCA, 07Fh
                    OUT     021h, _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    ANDI    _ACCA, 090h
                    OUT     022h, _ACCA
SYSTEM.LCDOUTX:
                    POP     _ACCA
                    PUSH    _ACCA
                    SWAP    _ACCA
                    ANDI    _ACCA, 0Fh
                    IN      _ACCB, 022h
                    OR      _ACCB, _ACCA
                    OUT     022h, _ACCB
                    POP     _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0017:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0017
                    POP     _ACCA
                    ORI     _ACCB, 10h
                    OUT     022h, _ACCB
                    PUSH    _ACCA
```

```
                    LDI     _ACCA, 30h
SYSTEM._L0018:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0018
                    POP     _ACCA
                    IN      _ACCB, 022h
                    ANDI    _ACCB, 0EFh
                    OUT     022h, _ACCB
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0019:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0019
                    POP     _ACCA
                    ANDI    _ACCA, 0Fh
                    IN      _ACCB, 022h
                    ANDI    _ACCB, 0F0h
                    OR      _ACCB, _ACCA
                    OUT     022h, _ACCB
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0020:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0020
                    POP     _ACCA
                    ORI     _ACCB, 10h
                    OUT     022h, _ACCB
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0021:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0021
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    OUT     022h, _ACCA
                    RET
```

```
                    LDI     _ACCA, 30h
SYSTEM._L0018:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0018
                    POP     _ACCA
                    IN      _ACCB, 022h
                    ANDI    _ACCB, 0EFh
                    OUT     022h, _ACCB
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0019:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0019
                    POP     _ACCA
                    ANDI    _ACCA, 0Fh
                    IN      _ACCB, 022h
                    ANDI    _ACCB, 0F0h
                    OR      _ACCB, _ACCA
                    OUT     022h, _ACCB
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0020:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0020
                    POP     _ACCA
                    ORI     _ACCB, 10h
                    OUT     022h, _ACCB
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0021:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0021
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    OUT     022h, _ACCA
                    RET
```

```
SYSTEM._L0022:
                        ROL       _ACCA
                        DEC       _ACCAHI
                        BRNE       SYSTEM._L0022
                        RET


SYSTEM._L0024:
                        ROR       _ACCA
                        DEC       _ACCAHI
                        BRNE       SYSTEM._L0024
                        RET

SYSTEM.LCDWAIT:
                        LDI       _ACCCLO, 00280h AND 0FFh
                        LDI       _ACCCHI, 00280h SHRB 8
                        SET
                        BLD       Flags, _WAITLCD
                        IN        _ACCA, 021h
                        ANDI      _ACCA, 0F0h
                        ORI       _ACCA, 030h
                        OUT       021h, _ACCA
                        IN        _ACCA, 022h
                        ANDI      _ACCA, 0EFh
                        ANDI      _ACCA, 09Fh
                        OUT       022h, _ACCA
                        PUSH      _ACCA
                        LDI       _ACCA, 30h
SYSTEM._L0029:
                        DEC       _ACCA
                        BRNE       SYSTEM._L0029
                        POP       _ACCA
                        ORI       _ACCA, 040h
                        OUT       022h, _ACCA
SYSTEM.LCDINPX:
                        PUSH      _ACCA
                        LDI       _ACCA, 30h
SYSTEM._L0030:
```

```
SYSTEM._L0022:
                        ROL       _ACCA
                        DEC       _ACCAHI
                        BRNE       SYSTEM._L0022
                        RET


SYSTEM._L0024:
                        ROR       _ACCA
                        DEC       _ACCAHI
                        BRNE       SYSTEM._L0024
                        RET

SYSTEM.LCDWAIT:
                        LDI       _ACCCLO, 00280h AND 0FFh
                        LDI       _ACCCHI, 00280h SHRB 8
                        SET
                        BLD       Flags, _WAITLCD
                        IN        _ACCA, 021h
                        ANDI      _ACCA, 0F0h
                        ORI       _ACCA, 030h
                        OUT       021h, _ACCA
                        IN        _ACCA, 022h
                        ANDI      _ACCA, 0EFh
                        ANDI      _ACCA, 09Fh
                        OUT       022h, _ACCA
                        PUSH      _ACCA
                        LDI       _ACCA, 30h
SYSTEM._L0029:
                        DEC       _ACCA
                        BRNE       SYSTEM._L0029
                        POP       _ACCA
                        ORI       _ACCA, 040h
                        OUT       022h, _ACCA
SYSTEM.LCDINPX:
                        PUSH      _ACCA
                        LDI       _ACCA, 30h
SYSTEM._L0030:
```

```
                    DEC     _ACCA
                    BRNE     SYSTEM._L0030
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0031:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0031
                    POP     _ACCA
                    IN      _ACCB, 020h
                    SWAP    _ACCB
                    ANDI    _ACCB, 0F0H
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0032:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0032
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0033:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0033
                    POP     _ACCA
                    IN      _ACCA, 020h
                    ANDI    _ACCA, 0FH
                    OR      _ACCA, _ACCB
                    IN      _ACCB, 022h
                    ANDI    _ACCB, 0EFh
```

```
                    DEC     _ACCA
                    BRNE     SYSTEM._L0030
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0031:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0031
                    POP     _ACCA
                    IN      _ACCB, 020h
                    SWAP    _ACCB
                    ANDI    _ACCB, 0F0H
                    IN      _ACCA, 022h
                    ANDI    _ACCA, 0EFh
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0032:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0032
                    POP     _ACCA
                    IN      _ACCA, 022h
                    ORI     _ACCA, 10h
                    OUT     022h, _ACCA
                    PUSH    _ACCA
                    LDI     _ACCA, 30h
SYSTEM._L0033:
                    DEC     _ACCA
                    BRNE     SYSTEM._L0033
                    POP     _ACCA
                    IN      _ACCA, 020h
                    ANDI    _ACCA, 0FH
                    OR      _ACCA, _ACCB
                    IN      _ACCB, 022h
                    ANDI    _ACCB, 0EFh
```

```
                        ANDI      _ACCB, 0F0h
                        OUT       022h, _ACCB
                        BST       Flags, _WAITLCD
                        BRTS      SYSTEM._L0026
                        .DEB      LCDINP
                        RET
SYSTEM._L0026:
                        SBIW      _ACCCLO, 1
                        BREQ      SYSTEM._L0027
                        ROL       _ACCA
                        .BRANCH   1, SYSTEM.LCDINPX
                        BRCS      SYSTEM.LCDINPX
                        RET
SYSTEM._L0027:
                        SER       _ACCA
                        RET









SYSTEM._L0043:
                        PUSH      _ACCA
                        LDI       _ACCA, 20h
                        RCALL     SYSTEM.LCDOUT
                        POP       _ACCA
                        DEC       _ACCA
                        BRNE       SYSTEM._L0043
                        POP       _ACCA
                        RCALL     SYSTEM.LCDCTRL
                        RET



SYSTEM.MDELAY:
                        .DEB      DEBdelay
```

```
                        ANDI      _ACCB, 0F0h
                        OUT       022h, _ACCB
                        BST       Flags, _WAITLCD
                        BRTS      SYSTEM._L0026
                        .DEB      LCDINP
                        RET
SYSTEM._L0026:
                        SBIW      _ACCCLO, 1
                        BREQ      SYSTEM._L0027
                        ROL       _ACCA
                        .BRANCH   1, SYSTEM.LCDINPX
                        BRCS      SYSTEM.LCDINPX
                        RET
SYSTEM._L0027:
                        SER       _ACCA
                        RET









SYSTEM._L0043:
                        PUSH      _ACCA
                        LDI       _ACCA, 20h
                        RCALL     SYSTEM.LCDOUT
                        POP       _ACCA
                        DEC       _ACCA
                        BRNE       SYSTEM._L0043
                        POP       _ACCA
                        RCALL     SYSTEM.LCDCTRL
                        RET



SYSTEM.MDELAY:
                        .DEB      DEBdelay
```

```
                        MOVW    _ACCDLO, _ACCB
                        CLR     _ACCA
                        CP      _ACCDLO, _ACCA
                        CPC     _ACCDHI, _ACCA
                        BREQ    SYSTEM.MDELAY3
SYSTEM.MDELAY1:
                        LDI     _ACCB, 00C7Ah AND 0FFh
                        LDI     _ACCA, 00C7Ah SHRB 8
SYSTEM.MDELAY2:
                        SUBI    _ACCB, 001h
                        SBCI    _ACCA, 000h
                        NOP
                        BRNE    SYSTEM.MDELAY2
                        SUBI    _ACCDLO, 001h
                        SBCI    _ACCDHI, 000h
                        BRNE    SYSTEM.MDELAY1
SYSTEM.MDELAY3:
                        RET

SYSTEM.UDELAY1:
                        LDI     _ACCB, 00026h AND 0FFh
SYSTEM.UDELAY2:
                        DEC     _ACCB
                        NOP
                        BRNE    SYSTEM.UDELAY2
                        DEC     _ACCA
                        BRNE    SYSTEM.UDELAY1
                        RET

SYSTEM._L0046:
                        SUBI    _ACCALO, 001h
                        SBCI    _ACCAHI, 000h
                        BRCS    SYSTEM._L0047
                        LD      _ACCA, Z+
                        ST      X+, _ACCA
                        RJMP    SYSTEM._L0046
SYSTEM._L0047:
                        RET
```

```
                        MOVW    _ACCDLO, _ACCB
                        CLR     _ACCA
                        CP      _ACCDLO, _ACCA
                        CPC     _ACCDHI, _ACCA
                        BREQ    SYSTEM.MDELAY3
SYSTEM.MDELAY1:
                        LDI     _ACCB, 00C7Ah AND 0FFh
                        LDI     _ACCA, 00C7Ah SHRB 8
SYSTEM.MDELAY2:
                        SUBI    _ACCB, 001h
                        SBCI    _ACCA, 000h
                        NOP
                        BRNE    SYSTEM.MDELAY2
                        SUBI    _ACCDLO, 001h
                        SBCI    _ACCDHI, 000h
                        BRNE    SYSTEM.MDELAY1
SYSTEM.MDELAY3:
                        RET

SYSTEM.UDELAY1:
                        LDI     _ACCB, 00026h AND 0FFh
SYSTEM.UDELAY2:
                        DEC     _ACCB
                        NOP
                        BRNE    SYSTEM.UDELAY2
                        DEC     _ACCA
                        BRNE    SYSTEM.UDELAY1
                        RET

SYSTEM._L0046:
                        SUBI    _ACCALO, 001h
                        SBCI    _ACCAHI, 000h
                        BRCS    SYSTEM._L0047
                        LD      _ACCA, Z+
                        ST      X+, _ACCA
                        RJMP    SYSTEM._L0046
SYSTEM._L0047:
                        RET
```

SYSTEM.StrConst2Str:				SYSTEM.StrConst2Str:		
			<>		LDI	_ACCBHI, 01h
					OUT	RAMPZ, _ACCBHI
	LPM	_ACCBHI, Z+			ELPM	_ACCBHI, Z+
	TST	_ACCBHI	=		TST	_ACCBHI
	BREQ	SYSTEM._L0049			BREQ	SYSTEM._L0049
SYSTEM._L0048:				SYSTEM._L0048:		
			<>		LDI	_ACCA, 01h
					OUT	RAMPZ, _ACCA
	LPM	_ACCA, Z+			ELPM	_ACCA, Z+
	RCALL	SYSTEM.Char2Str	=		RCALL	SYSTEM.Char2Str
	DEC	_ACCBHI			DEC	_ACCBHI
	BRNE	SYSTEM._L0048			BRNE	SYSTEM._L0048
SYSTEM._L0049:				SYSTEM._L0049:		
	RET				RET	
SYSTEM.Char2Str:				SYSTEM.Char2Str:		
	PUSH	_ACCCLO			PUSH	_ACCCLO
	PUSH	_ACCCHI			PUSH	_ACCCHI
	BST	Flags, _DEVICE			BST	Flags, _DEVICE
	BRTS	SYSTEM._L0053			BRTS	SYSTEM._L0053
	PUSH	_ACCA			PUSH	_ACCA
	LDD	_ACCCLO, Y+001h			LDD	_ACCCLO, Y+001h
	LDD	_ACCCHI, Y+002h			LDD	_ACCCHI, Y+002h
	LDD	_ACCA, Y+000h			LDD	_ACCA, Y+000h
	TST	_ACCA			TST	_ACCA
	BRNE	SYSTEM._L0050			BRNE	SYSTEM._L0050
	POP	_ACCA			POP	_ACCA
	SET				SET	
	BLD	Flags, _ERRFLAG			BLD	Flags, _ERRFLAG
	POP	_ACCCHI			POP	_ACCCHI
	POP	_ACCCLO			POP	_ACCCLO
	RET				RET	
SYSTEM._L0050:				SYSTEM._L0050:		
	DEC	_ACCA			DEC	_ACCA

```
                    STD     Y+000h, _ACCA
                    POP     _ACCA
                    ST      Z+, _ACCA
                    STD     Y+002h, _ACCCHI
                    STD     Y+001h, _ACCCLO
                    POP     _ACCCHI
                    POP     _ACCCLO
                    RET
SYSTEM._L0053:
                    LDD     _ACCCLO, Y+000h
                    LDD     _ACCCHI, Y+001h
                    PUSH    _ACCA
                    PUSH    _ACCB
                    PUSH    _ACCALO
                    PUSH    _ACCAHI
                    PUSH    _ACCBLO
                    PUSH    _ACCBHI
                    PUSH    _ACCELO
                    PUSH    _ACCEHI
                    PUSH    _ACCDLO
                    PUSH    _ACCDHI
                    PUSH    _ACCFLO
                    PUSH    _ACCFHI
                    ICALL
                    POP     _ACCFHI
                    POP     _ACCFLO
                    POP     _ACCDHI
                    POP     _ACCDLO
                    POP     _ACCEHI
                    POP     _ACCELO
                    POP     _ACCBHI
                    POP     _ACCBLO
                    POP     _ACCAHI
                    POP     _ACCALO
                    POP     _ACCB
                    POP     _ACCA
                    POP     _ACCCHI
                    POP     _ACCCLO
```

```
                    STD     Y+000h, _ACCA
                    POP     _ACCA
                    ST      Z+, _ACCA
                    STD     Y+002h, _ACCCHI
                    STD     Y+001h, _ACCCLO
                    POP     _ACCCHI
                    POP     _ACCCLO
                    RET
SYSTEM._L0053:
                    LDD     _ACCCLO, Y+000h
                    LDD     _ACCCHI, Y+001h
                    PUSH    _ACCA
                    PUSH    _ACCB
                    PUSH    _ACCALO
                    PUSH    _ACCAHI
                    PUSH    _ACCBLO
                    PUSH    _ACCBHI
                    PUSH    _ACCELO
                    PUSH    _ACCEHI
                    PUSH    _ACCDLO
                    PUSH    _ACCDHI
                    PUSH    _ACCFLO
                    PUSH    _ACCFHI
                    ICALL
                    POP     _ACCFHI
                    POP     _ACCFLO
                    POP     _ACCDHI
                    POP     _ACCDLO
                    POP     _ACCEHI
                    POP     _ACCELO
                    POP     _ACCBHI
                    POP     _ACCBLO
                    POP     _ACCAHI
                    POP     _ACCALO
                    POP     _ACCB
                    POP     _ACCA
                    POP     _ACCCHI
                    POP     _ACCCLO
```

Left file		Right file
`RET`		`RET`
`SYSTEM.DefIntErr:`		`SYSTEM.DefIntErr:`
`RETI`		`RETI`
`.ROMCONST $`	<>	`.ROMCONST 10000h`
	=	
`; ============ String-constant tables ======`		`; ============ String-constant tables ======`
`$St_String1:`		`$St_String1:`
`.BYTE 3`		`.BYTE 3`
`.ASCII "ABC"`		`.ASCII "ABC"`
`; ============ Fixed addr String-constant ta`		`; ============ Fixed addr String-constant ta`
`; ============ fixed addr array-constant tab`		`; ============ fixed addr array-constant tab`
`; +++++++++++++++++++++++++++++++++++++++++`		`; +++++++++++++++++++++++++++++++++++++++++`
`; Reset and Interrupt vectors`		`; Reset and Interrupt vectors`
`; +++++++++++++++++++++++++++++++++++++++++`		`; +++++++++++++++++++++++++++++++++++++++++`
`.ENDCODE`		`.ENDCODE`
`SYSTEM.ENDCODE:`		`SYSTEM.ENDCODE:`
`.ORG 000000h, VECTTAB`		`.ORG 000000h, VECTTAB`
`.VECTTAB`		`.VECTTAB`
`SYSTEM.VectTab:`		`SYSTEM.VectTab:`
`JMP SYSTEM.RESET`		`JMP SYSTEM.RESET`
`JMP SYSTEM.DefIntErr`		`JMP SYSTEM.DefIntErr`
`JMP SYSTEM.DefIntErr`		`JMP SYSTEM.DefIntErr`
`JMP SYSTEM.DefIntErr`		`JMP SYSTEM.DefIntErr`
`JMP SYSTEM.DefIntErr`		`JMP SYSTEM.DefIntErr`
`JMP SYSTEM.DefIntErr`		`JMP SYSTEM.DefIntErr`
`JMP SYSTEM.DefIntErr`		`JMP SYSTEM.DefIntErr`
`JMP SYSTEM.DefIntErr`		`JMP SYSTEM.DefIntErr`
`JMP SYSTEM.DefIntErr`		`JMP SYSTEM.DefIntErr`
`JMP SYSTEM.DefIntErr`		`JMP SYSTEM.DefIntErr`

```
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.$INTERRUPT_TIMER0

                        .VECTTABE
SYSTEM.ENDPROG:

                        .END

                        ; ============ End of Program ============


                        ; System uses registers
                        ; from bottom     = 00000h
                        ; upto            = 00006h
                        ; and
                        ; from            = 00010h
                        ; upto            = 0001Fh
                        ;
                        ; Stackframe at   = ...002FFh


                        ; ===== Current top of User Vars in Data is

                        ; ===== Current top of User Vars in IData is

                        ; ===== EEprom currently not used =====
```

```
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.DefIntErr
                        JMP       SYSTEM.$INTERRUPT_TIMER0

                        .VECTTABE
SYSTEM.ENDPROG:

                        .END

                        ; ============ End of Program ============


                        ; System uses registers
                        ; from bottom     = 00000h
                        ; upto            = 00006h
                        ; and
                        ; from            = 00010h
                        ; upto            = 0001Fh
                        ;
                        ; Stackframe at   = ...002FFh


                        ; ===== Current top of User Vars in Data is

                        ; ===== Current top of User Vars in IData is

                        ; ===== EEprom currently not used =====
```

; ===== Imported Library Routines =====		; ===== Imported Library Routines =====
; Pascal Statements : 3		; Pascal Statements : 3
; Assembler Lines : 2655	<>	; Assembler Lines : 2667
; Optimizer removed : 0 lines = 0Bytes	=	; Optimizer removed : 0 lines = 0Bytes
; >> real SysTick (exact): 9.984 msec <<		; >> real SysTick (exact): 9.984 msec <<
; Merlin Optimiser Version 3.4.2.1 saved 310		; Merlin Optimiser Version 3.4.2.1 saved 310
; Original size was 1286 so % saved = 24%	<>	; Original size was 1298 so % saved = 23%
; Analysis Time (hh:mm:ss) : 00:00:00	=	; Analysis Time (hh:mm:ss) : 00:00:00
; Optimisation Time (hh:mm:ss) : 00:00:00		; Optimisation Time (hh:mm:ss) : 00:00:00
; Total Time (hh:mm:ss) : 00:00:00		; Total Time (hh:mm:ss) : 00:00:00