;\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

;THIS ROUTINE DIVIDES ONE 16 BIT NUMBER BY ANOTHER

;R7 = LOOP COUNT

;RSLT\_0 = LSB OF DIVIDEND/QUOTIENT

;RSLT\_1 = MSB OF DIVIDEND/QUOTIENT

;R2 = LSB OF DIVISOR

;R3 = MSB OF DIVISOR

;R4 = LSB OF REMAINDER

;R5 = MSB OF REMAINDER

;TEMP\_0 = TEMP. (LSB OF REMAINDER)

;TEMP\_1 = TEMP. (MSB OF REMAINDER)

;\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

DIV\_16BIT:

CLR C

MOV R7,#16

MOV R4,#0

MOV R5,#0

ADIVLOOP:

MOV A,RSLT\_0

RLC A

MOV RSLT\_0,A

MOV A,RSLT\_1

RLC A

MOV RSLT\_1,A

MOV A,R4

RLC A

MOV R4,A

MOV TEMP\_0,A

MOV A,R5

RLC A

MOV R5,A

MOV TEMP\_1,A

MOV A,R4

SUBB A,R2

MOV R4,A

MOV A,R5

SUBB A,R3

MOV R5,A

CPL C

JC ADROP

MOV A,TEMP\_0

;MOV R4,A

MOV A,TEMP\_1

;MOV R5,A

ADROP: DJNZ R7,ADIVLOOP

MOV A,RSLT\_0

RLC A

MOV RSLT\_0,A

MOV A,RSLT\_1

RLC A

MOV RSLT\_1,A

RET

;-----------------------------------------------------------------------------------------------

MOV DPTR,#D2000H ;DIVIDENT

MOVX A,@DPTR

MOV RSLT\_1,A

INC DPTR

MOVX A,@DPTR

MOV RSLT\_0,A

MOV DPTR,#D2005H ;DIVISOR

MOVX A,@DPTR

MOV R3,A

INC DPTR

MOVX A,@DPTR

MOV R2,A

LCALL DIVIDE

MOV DPTR,#D2010H ;QUOTIENT

MOV RSLT\_1,A

MOVX @DPTR,A

INC DPTR

MOV RSLT\_0,A

MOVX @DPTR,A

INC DPTR ;REMAINDER IS AT D2011

MOV A,TEMP\_1

MOVX @DPTR,A

INC DPTR

MOV A,TEMP\_0

MOVX @DPTR,A