Lab 9

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1. **Write an assembly language to find the LCM of two numbers. (Pass the parameters to the procedure using registers, pointer and stack)**

**Code:**

*;Perameter passed by register*

data *segment*

*num1* dw 0015

*num2* dw 0040

*gcd* dw ?

*lcm* dw ?

data ends

code *segment*

*assume* ds:*data*,*cs*:*code*

    mov *ax*,*data*

    mov ds,*ax*

    mov *ax*,*num1*

    mov *bx*,*num2*

    call *calcLCM*

    mov *lcm*,*ax*

    int 03h

*calcLCM* proc *near*

*l1*:

        xor *dx*,*dx* *;Algorithm:*

        mov *cx*,*bx* *;while(num!=0){*

        div *bx*  *; temp=num;*

        mov *bx*,*dx* *; num=(a%num);*

        mov *ax*,*cx; ; a=temp;*

        cmp *bx*,0 *;}*

        jne *l1*

        mov *gcd* ,*ax* *;gcd=a;*

        mov *cx*,*ax* *;lcm=(a\*b)/gcd*

        mov *ax*,*num1*

        mov *bx*,*num2*

        mul *bx*

        div *cx*

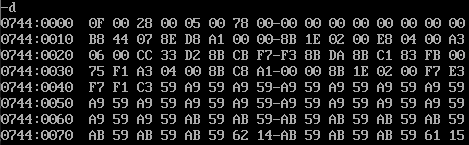
        RET

*calcLCM* endp

code ends

end

**Screenshot:**

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1. **Write an assembly language program to convert temperature from Fahrenheit to Celsius. [(F − 32) × 5/9 = °C]**

**Code:**

data *segment*

*Fahrenheit* dw 122

*Celsius* dw ? *;It should be 50*

data ends

mystack *segment* *stack*

    dw 5 dup(0)

*stack\_top* *label* word

mystack ends

code *segment*

*assume* *cs*:*code*,*ds*:*data*,*ss*:*mystack*

    mov *ax*,*data*

    mov ds,*ax*

    mov *ax*,*mystack*

    mov *ss*,*ax*

    mov sp,*offset* *stack\_top*

    push *Fahrenheit*

    call *calcCelsius*

    int 03

*calcCelsius* proc *near*

    push *bp*

    mov *bp*,sp

    mov *ax*,[*bp*+4]

    sub *ax*,32

    mov *cx*,0005

    mul *cx*

    mov *cx*,0009

    div *cx*

    mov *Celsius*,*ax*

    pop *bp*

    RET

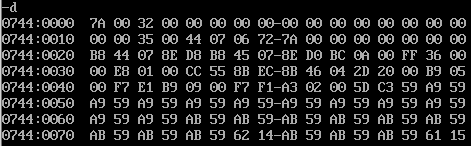
*calcCelsius* endp

code ends

end

**Screenshot:**

32H=50

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