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LAB : 01

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1. Find minimum of two integer numbers in an assembly function (FAR Procedure). The numbers are passed from main program in C and result is passed back from assembly function to the C program.

Main.c

```c
#include<stdio.h>
#include<stdlib.h>
#include<conio.h>

int n1 = 20 , n2 = 30;
int extern far fmin(int , int );

void  main()
{
    clrscr();
    printf("sum = %d",fmin(n1,n2));
    getch();
}
```

Fmin.asm

```
public _fmin
extrn _n1:word , _n2:word
_code segment
```

```
assume cs:_code

_fmin proc far

mov ax , _n1
cmp ax , _n2
jg _grt
mov ax , _n2
_grt: mov ax , _n1
ret
_fmin endp
int 03h
_code ends
end
```

Output

```
min = 20
```

2. Convert temperature given in Celsius to Fahrenheit using assembly function (FAR Procedure). The assembly function is called from main program in C.

Ctf.asm

```
public _ctof
extrn _c:word

_code segment
```

```
assume cs:_code
_ctof proc far

mov ax,_c
mov bx , 9
mul  bx
mov bx , 5
div bx
add ax , 32
ret

_ctof endp
int 03h
_code ends
end
```

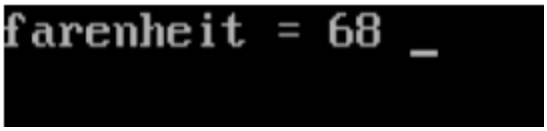
Main.c

```
#include<stdio.h>
#include<stdlib.h>
#include<conio.h>

int c = 20;
int extern far ctof(int  );

void  main()
{
    clrscr();
    printf("farenheit = %d",ctof(c));
    getch();
}
```

Output



3. Calculate the LCM of two integer numbers in an assembly function (FAR Procedure). The numbers are passed from main program in C and LCM is passed back from the assembly function back to C program.

lcm.asm

```
public _lcm

extrn _num1:word, _num2:word

_code segment
assume cs:_code

_lcm proc far
   mov ax, _num1
   mov bx, _num2

loop1:
   mov dx, ax
   cmp ax, bx
   jnc swap
   mov ax, bx
   sub ax, bx

swap:
   mov ax, bx
   mov bx, dx
   jnz loop1

   ret
_lcm endp
```

```
int 3
_code ends
end
```

Main.c

```
#include<stdio.h>
#include<conio.h>

int num1=5, num2=3, ans;
int extern far lcm(int, int);

void main()
{
   clrscr();
   ans = lcm(num1, num2);
   printf("lcm is %d", ans);
   getch();
}
```