

# ASSIGNMENT – 4

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SLOT: L31+L32+L49+L50

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Write a C program using pointers to read two numbers and multiplies them together and print the result.

CODE:

```
#include <stdio.h>
int main()
{
    int a,b;
    printf("Enter a:"); scanf("%d",&a);
    printf("Enter b:"); scanf("%d",&b);
    int *ptr1,*ptr2;
    ptr1=&a; ptr2=&b;
    printf("%d X %d = %d",*ptr1,*ptr2,(*ptr1)*(*ptr2));
}
```

OUTPUT:

```
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/" && gcc test.c -o
test && "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/"test
Enter a:22
Enter b:33
22 X 33 = 726%
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/" && gcc test.c -o
test && "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/"test
Enter a:10
Enter b:20
10 X 20 = 200%
```

Write a C program using pointer to tell that the user entered is either 5 or 6

CODE:

```
#include <stdio.h>
int main()
{
    int a;
    printf("Enter a number:"); scanf("%d",&a);
    int *ptr;
    ptr = &a;
    if (*ptr==5||*ptr==6) printf("You entered %d",*ptr);
    else printf("You did not enter 5 or 6");
}
```

OUTPUT:

```
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGR
AMMING/github/C_PROBLEMS_VIT/" && gcc test2.c -o
test2 && "/Users/vijayakumarmuthusamy/COLLEGE/P
ROGRAMMING/github/C_PROBLEMS_VIT/"test2
Enter a number:5
You entered 5%
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGR
AMMING/github/C_PROBLEMS_VIT/" && gcc test2.c -o
test2 && "/Users/vijayakumarmuthusamy/COLLEGE/P
ROGRAMMING/github/C_PROBLEMS_VIT/"test2
Enter a number:6
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/" && gcc test2.c -o
test2 && "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/"test2
Enter a number:2
You did not enter 5 or 6%
```

Write a C program that performs the following: Ask a user to enter a number. If the entered number is between 0 and 10, print the word blue. If the number is between 10 and 20, print the word red. If the number is between 20 and 30, print the word green. If it is any other number, print that it is not a correct color option.

CODE:

```
#include <stdio.h>
int main()
{
    int n;
    printf("Enter number:"); scanf("%d",&n);
    if (n>0 && n<=10) printf("blue");
    else if (n>10 && n<=20) printf("red");
    else if (n>20 && n<=30) printf("green");
    else printf("Invalid colour option");
}
```

OUTPUT:

```
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGR
AMMING/github/C_PROBLEMS_VIT/" && gcc test3.c -o
test3 && "/Users/vijayakumarmuthusamy/COLLEGE/P
ROGRAMMING/github/C_PROBLEMS_VIT/"test3
Enter number:5
blue%
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGR
AMMING/github/C_PROBLEMS_VIT/" && gcc test3.c -o
test3 && "/Users/vijayakumarmuthusamy/COLLEGE/P
ROGRAMMING/github/C_PROBLEMS_VIT/"test3
Enter number:15
red%
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGR
AMMING/github/C_PROBLEMS_VIT/" && gcc test3.c -o
test3 && "/Users/vijayakumarmuthusamy/COLLEGE/P
ROGRAMMING/github/C_PROBLEMS_VIT/"test3
Enter number:25
green%
```

Write a C program using pointer to print all multiples of 5 between 1 and 100 (including both 1 and 100).

CODE:

```
#include <stdio.h>
int main()
{
    int a=5;
    int *ptr;
    ptr = &a;
    for (int i=1;i<=100;i++)
    {
        printf("\n%d X %d = %d",*ptr,i,(*ptr)*i);
    }
}
```

OUTPUT:

```
(/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGR
AMMING/github/C_PROBLEMS_VIT/" && gcc test4.c -o
test4 && "/Users/vijayakumarmuthusamy/COLLEGE/P
ROGRAMMING/github/C_PROBLEMS_VIT/"test4

5 X 1 = 5
5 X 2 = 10
5 X 3 = 15
5 X 4 = 20
5 X 5 = 25
5 X 6 = 30
5 X 7 = 35
5 X 8 = 40
5 X 9 = 45
5 X 10 = 50
5 X 11 = 55
5 X 12 = 60
5 X 13 = 65
5 X 14 = 70
5 X 15 = 75
5 X 16 = 80
5 X 17 = 85
5 X 18 = 90
5 X 19 = 95
5 X 20 = 100
5 X 21 = 105
5 X 22 = 110
5 X 23 = 115
5 X 24 = 120
5 X 25 = 125
5 X 26 = 130
5 X 27 = 135
5 X 28 = 140
5 X 29 = 145
5 X 30 = 150
5 X 31 = 155
5 X 32 = 160
5 X 33 = 165
```

5 X 34 = 170  
5 X 35 = 175  
5 X 36 = 180  
5 X 37 = 185  
5 X 38 = 190  
5 X 39 = 195  
5 X 40 = 200  
5 X 41 = 205  
5 X 42 = 210  
5 X 43 = 215  
5 X 44 = 220  
5 X 45 = 225  
5 X 46 = 230  
5 X 47 = 235  
5 X 48 = 240  
5 X 49 = 245  
5 X 50 = 250  
5 X 51 = 255  
5 X 52 = 260  
5 X 53 = 265  
5 X 54 = 270  
5 X 55 = 275  
5 X 56 = 280  
5 X 57 = 285  
5 X 58 = 290  
5 X 59 = 295  
5 X 60 = 300  
5 X 61 = 305  
5 X 62 = 310  
5 X 63 = 315  
5 X 64 = 320  
5 X 65 = 325  
5 X 66 = 330  
5 X 67 = 335  
5 X 68 = 340  
5 X 69 = 345  
5 X 70 = 350  
5 X 71 = 355  
5 X 72 = 360

5 X 73 = 365
5 X 74 = 370
5 X 75 = 375
5 X 76 = 380
5 X 77 = 385
5 X 78 = 390
5 X 79 = 395
5 X 80 = 400
5 X 81 = 405
5 X 82 = 410
5 X 83 = 415
5 X 84 = 420
5 X 85 = 425
5 X 86 = 430
5 X 87 = 435
5 X 88 = 440
5 X 89 = 445
5 X 90 = 450
5 X 91 = 455
5 X 92 = 460
5 X 93 = 465
5 X 94 = 470
5 X 95 = 475
5 X 96 = 480
5 X 97 = 485
5 X 98 = 490
5 X 99 = 495

Write a C program using pointer that will count all the even numbers up to a user defined stopping point

CODE:

```
#include <stdio.h>
int main()
{
    int n;
    int cnt=0;
    printf("Enter stopping point:"); scanf("%d",&n);
    int *ptr;
    ptr = &n;
    for (int i=2;i<=(*ptr);i++)
    {
        if (i%2==0) cnt++;
    }
    printf("Total even numbers till %d:%d",*ptr,cnt);
}
```

OUTPUT:

```
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/" && gcc test5.c -o test5 && "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/"test5
Enter stopping point:12
Total even numbers till 12:6%
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/" && gcc test5.c -o test5 && "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/"test5
Enter stopping point:20
Total even numbers till 20:10%
```

Write a C program using function call by reference that will perform the following.

- a) Read five separate numbers.
- b) Calculate the average of the five numbers.
- c) Find the smallest (minimum) and largest (maximum) of the five entered numbers

CODE:

```
#include <stdio.h>
void func(int *a,int *b,int *c,int *d,int *e);
int main()
{
    int a,b,c,d,e;
    func(&a,&b,&c,&d,&e);
}
void func(int *a,int *b,int *c,int *d,int *e)
{
    printf("Enter a:"); scanf("%d",&a);
    printf("Enter b:"); scanf("%d",&b);
    printf("Enter c:"); scanf("%d",&c);
    printf("Enter d:"); scanf("%d",&d);
    printf("Enter e:"); scanf("%d",&e);
    float avg;
    int arr[5]={*a,*b,*c,*d,*e};
    int min=arr[0],max=arr[0];
    avg = (*a + *b + *c + *d + *e)/5;
    for (int i=0;i<5;i++)
    {
        if (arr[i]>max) max = arr[i];
        else if (arr[i]<min) min = arr[i];
    }
    printf("\nAverage of the entered numbers:%.2f",avg);
    printf("\nSmallest=%d Largest=%d",min,max);
}
```

## OUTPUT:

```
/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT
↳ cd "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/" && gcc test6.c -
o test6 && "/Users/vijayakumarmuthusamy/COLLEGE/PROGRAMMING/github/C_PROBLEMS_VIT/"test6
Enter a:1
Enter b:2
Enter c:3
Enter d:4
Enter e:5

Average of the entered numbers:3.00
Smallest=1 Largest=5%
```