

Practice Programs for OoJ Lab – Week 1

1. Write a menu driven C Program to design a simple calculator which solves 10 operations - 4 Arithmetic, 4 Relational and any two of your choice. The program should loop till the user wishes to stop.

```
#include <stdio.h>
int main()
{
    int n1,n2,choice;
    printf("Enter the first integer:");
    scanf("%d",&n1);
    printf("Enter the second integer:");
    scanf("%d",&n2);
    printf("\nEnter choice:\n");
    printf("1-Addition\n2-Subtraction\n3-Multiplication\n4-Division\n5-Greater than\n6-Less than\n7-  
Greater than equal to\n8-Less than equal to\n9-Equal to\n10-Not Equal to\n11-Exit\n");
    scanf("%d",&choice);
    switch(choice)
    {
        case 1:
            printf("Addition of %d and %d is: %d\n",n1,n2,n1+n2);
            break;
        case 2:
            printf("Subtraction of %d and %d is: %d\n",n1,n2,n1-n2);
            break;
        case 3:
            printf("Multiplication of %d and %d is: %d\n",n1,n2,n1*n2);
            break;
        case 4:
            printf("Division of %d and %d is: %d\n",n1,n2,n1/n2);
            break;
        case 5:
            printf("n1 > n2 : %d\n", n1 > n2);
            break;
        case 6:
            printf("n1 < n2 : %d\n", n1 < n2);
            break;
        case 7:
            printf("n1 >= n2 : %d\n", n1 >= n2);
            break;
        case 8:
            printf("n1 <= n2 : %d\n", n1 <= n2);
            break;
        case 9:
            printf("n1 == n2 : %d\n", n1 == n2);
            break;
        case 10:
            printf("n1 != n2 : %d\n", n1 != n2);
            break;
        default:
            printf("Input correct choice\n");
            break;
    }
}
```

OUTPUT :

```
Enter the first integer:10
Enter the second integer:5

Enter choice:
1-Addition
2-Substraction
3-Multiplication
4-Division
5-Greater than
6-Less than
7-Greater than equal to
8-Less than equal to
9-Equal to
10-Not Equal to
11-Exit
4
Division of 10 and 5 is: 2

...Program finished with exit code 0
Press ENTER to exit console.□
```

```
Enter the second integer:100

Enter choice:
1-Addition
2-Substraction
3-Multiplication
4-Division
5-Greater than
6-Less than
7-Greater than equal to
8-Less than equal to
9-Equal to
10-Not Equal to
11-Exit
7
n1 >= n2 : 0

...Program finished with exit code 0
Press ENTER to exit console.□
```

```
Enter the first integer:54
Enter the second integer:90

Enter choice:
1-Addition
2-Substraction
3-Multiplication
4-Division
5-Greater than
6-Less than
7-Greater than equal to
8-Less than equal to
9-Equal to
10-Not Equal to
11-Exit
11
Input correct choice

...Program finished with exit code 0
Press ENTER to exit console.
```

2. Write a C program to accept three numbers from the user. Find the greater two among the three and pass them as parameters to the user defined functions given below.

a. sumaver (...) which finds the sum and average of the two numbers. Print the sum and return the average.

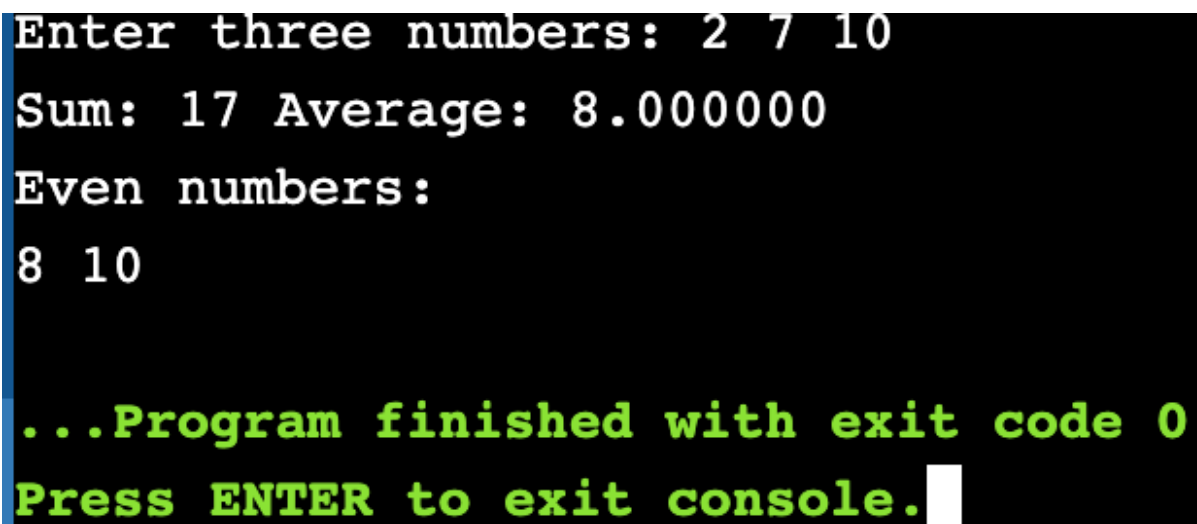
b. printeven (...) which prints all the even numbers between the given two numbers.

```
#include <stdio.h>
float sumaver(int,int);
void printeven(int,int);
int main()
{
    int a,b,c;
    float avg;
    printf("Enter three numbers: ");
    scanf("%d%d%d",&a,&b,&c);
    if(a<b)
    {
        if(a<c)
        {
            avg=sumaver(b,c);
            printf("Average: %f\n",avg);
            printeven(b,c);
        }
        else
        {
            avg=sumaver(a,b);
            printf("Average: %f\n",avg);
            printeven(a,b);
        }
    }
    else
    {
        if(b>c)
        {
            avg=sumaver(a,c);
            printf("Average: %f\n",avg);
            printeven(a,c);
        }
        else
        {
            avg=sumaver(a,b);
            printf("Average: %f\n",avg);
            printeven(a,b);
        }
    }
    return 0;
}

float sumaver(int a,int b)
{
    int sum;
    float avg;
    sum=a+b;
    printf("Sum: %d ",sum);
    avg=sum/2;
    return avg;
}
```

```
void printeven(int a, int b)
{
    int i;
    printf("Even numbers:\n");
    for(i=a;i<=b;i++)
    {
        if(i%2==0)
            printf("%d ",i);
    }
}
```

OUTPUT :

A screenshot of a console window with a black background and white and green text. The text shows the input of three numbers (2, 7, 10), the calculated sum (17) and average (8.000000), and the output of even numbers (8, 10). It concludes with a green message stating the program finished with exit code 0 and a prompt to press ENTER to exit the console.

```
Enter three numbers: 2 7 10
Sum: 17 Average: 8.000000
Even numbers:
8 10

...Program finished with exit code 0
Press ENTER to exit console.
```