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 c,a,b,i;
 while(1)
 {
 printf("PRESS THE NUMBER TO CHOOSE THE OPERATION :\n");
 printf("1) Add\n");
 printf("2)Subtract\n");
 printf("3)Multiply\n");
 printf("4)Divide\n");
 printf("5)Modulus\n");
 printf("6)Greater than\n");
 printf("7)Lesser than\n");
 printf("8)Equal to\n");
 printf("9)Not equal to\n");
 printf("10)Increement\n");
 scanf("%d",&i);
 printf("Enter two numbers to perform the selected
operation:\n");
 scanf("%d%d",&a,&b);
 switch(i)
 {
 case 1:printf("%d + %d = %d \n",a,b,a+b);break;
 case 2:printf("%d - %d = %d \n",a,b,a-b);break;
 case 3:printf("%d x %d = %d \n",a,b,a*b);break;
 case 4:printf("%d / %d = %d \n",a,b,a/b);break;
 case 5:printf("%d mod %d = %d \n",a,b,a%b);break;
 case 6:if(a>b)
 {
 printf("%d > %d \n",a,b);

 }
```

```
 else
 {
 printf("%d > %d \n",b,a);
 }
 break;
 case 7:if(a<b)
 {
 printf("%d < %d \n",a,b);

 }
 else
 {
 printf("%d < %d \n",b,a);
 }
 break;
 case 8:if(a==b)
 {
 printf("%d = %d \n",a,b);

 }
 else
 {
 printf("%d != %d \n",b,a);
 }
 break;
 case 9:if(a!=b)
 {
 printf("%d != %d \n",a,b);

 }
 else
 {
 printf("%d = %d \n",b,a);
 }
 break;
 case 10:
 printf("%d++ = %d \n",a,a+1);
 printf("%d++ =%d \n",b,b+1);
 break;
 default:printf("WRONG INPUT!\n");
 }
 printf("Press 1 to perform calculation again\nPress any other
key to exit\n");
 scanf("%d",&c);
 if(c!=1)
 {
 break;
 }
```

```
    }
  }
```

Output :-

```
PRESS THE NUMBER TO CHOOSE THE OPERATION :
1) Add
2)Subtract
3)Multiply
4)Divide
5)Modulus
6)Greater than
7)Lesser than
8)Equal to
9)Not equal to
10)Increement
1
Enter two numbers to perform the selected operation:
4
5
4 + 5 = 9
Press 1 to perform calculation again
Press any other key to exit
8


...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>
int sumaver(int a,int b)
{
```

```
 int sum;
 sum=a+b;
 printf("Sum= %d \n",sum);
 return sum/2;

}
void printeven(int a,int b)
{
 int small,big;
 if(a>b)
 {
 small=b;
 big=a;
 }
 else
 {
 small=a;
 big=b;
 }
 printf("Even numbers between two numbers are:\n");
 int i;
 for(i=small+1;i<big;i++)
 {
 if(i%2==0)
 printf("%d \n",i);
 }
}
int main()
{
 int a,b,c,avg,g1,g2;
 printf("Enter three numbers:\n");
 scanf("%d%d%d",&a,&b,&c);
 if(c<a && c<b)
 {
 g1=a;
 g2=b;
 }
 else if(b<a && b<c)
 {
 g1=a;
 g2=c;
 }
 else
 {
 g1=b;
 g2=c;
 }
```

```
 avg=sumaver(g1,g2);
 printf("Average of two numbers is : %d \n",avg);
 printeven(g1,g2);

}
```

Output :-

```
Reading symbols from a.out...done.
/usr/share/gdb/gdbinit: No such file or directory.
(gdb) run
Starting program: /home/a.out
Enter three numbers:
4
14
23
Sum= 37
Average of two numbers is : 18
Even numbers between two numbers are:
16
18
20
22
[Inferior 1 (process 7076) exited normally]
(gdb)
```