Day 2 – (if-else & if-else-if ladder)

Assignment 6

Input a number and find its absolute value

Program code:

```
#include<stdio.h>
void main()
{
      int num;
      printf("Enter a number: ");
      scanf("%d",&num);
      if(num<0)
      {
            num=(-num);
            printf("The absolute value of the number is: %d",num);
      }
      else
            printf("The absolute value of the number is: %d",num);
}
```

Output:

Enter a number: 9
The absolute value of the number is: 9

Enter a number: -9
The absolute value of the number is: 9

Assignment No. 7

Input a number and change its case (lowercase to upper case and vice versa)

Program code:

```
#include<stdio.h>
void main()
{
      char ch;
      printf("Enter a charecter: ");
      scanf("%c",&ch);
      if(ch>=97&&ch<=122)
      {
            ch=ch-32;
            printf("Character after convertion is: %c",ch);
      }
      else if(ch>=65&&ch<=90)
      {
            ch=ch+32;
            printf("Character after convertion is: %c",ch);
      }
      else if(ch>=48&&ch<=57)
            printf("It is a number");
      else
            printf("It is a special character");
}
```

Output:

Enter a charecter: a
Character after convertion is: A

Enter a charecter: A
Character after convertion is: a

Assignment No. 8

Check whether a given number is an even or odd

Program code:

```
#include<stdio.h>
void main()
{
      int num,rem;
      printf("Enter a number: ");
      scanf("%d",&num);
      rem=num%2;
      if(rem==0)
            printf("\nThis is an even number\n");
      else
            printf("\nThis is an odd number\n");
}
```

Output:

Enter a number: 8

This is an even number

Enter a number: 3

This is an odd number

Assignment No. 9

Find the largest and smallest number among three numbers supplied by the user

Program code:

```
#include<stdio.h>
void main()
{
      int num1,num2,num3;
      printf("Enter three numbers:\n");
      scanf("%d%d%d",&num1,&num2,&num3);
      if(num1>num2)
            if(num1>num3)
            {
                  printf("%d is largest\n",num1);
                  if(num2>num3)
                        printf("%d is the smallest",num3);
                  else
                        printf("%d is the smallest",num2);
            }
            else
                  printf("%d is largest\n%d is the
smallest\n",num3,num2);
      else if(num2>num3)
      {
            printf("%d is largest\n",num2);
            if(num1>num3)
                  printf("%d is the smallest\n",num3);
            else
                  printf("%d is the smallest\n",num1);
      }
      else
            printf("%d is largest\n%d is the smallest\n",num3,num1);
}
```

Output:

Enter three numbers:
34 45 67
67 is largest
34 is the smallest

Assignment No. 10

Check whether a given year is a leap year or not

Program code:

```
#include<stdio.h>
void main()
{
      int year;
      printf("Enter the year: ");
      scanf("%d",&year);
      if((year%100)==0)
            if((year%400)==0)
                  printf("It is a leap year\n");
            else
                  printf("It is not a leap year");
      else if((year%4)==0)
            printf("It is a leap year");
      else
            printf("It is not a leap year");
}
```

Output:

Enter the year: 1998
It is not a leap year

Enter the year: 2016
It is a leap year

Assignment No. 11

Calculate the telephone bill as per the call rate given below:
Rental = Rs. 250
First 100 calls @ Rs. 0.2
Next 100 calls @ Rs. 0.3
Remaining calls @ Rs. 0.5

Program code:

```
#include<stdio.h>
void main()
{
      int calls;
      float bill;
      printf("Enter the number of calls: ");
      scanf("%d",&calls);
      bill=250;                                   /*Rental*/
      if(calls<=100)
      {
            bill=bill+(calls*0.2);                /*first 100 calls at
0.2 rs per call*/
      }
      else if(calls<=200)
      {
            calls=calls-100;
            bill=bill+20+(0.3*calls);        /*Second 200 calls at 0.3
rs per call*/
      }
      else
      {
            calls=calls-200;
            bill=bill+50+(calls*0.5);        /*Rest calls are at 0.5 rs
per call*/
      }
      printf("Net amount is: Rs. %0.2f",bill);
}
```

Output:

Enter the number of calls: 300
Net amount is: Rs. 350.00

Assignment No. 12

Solve a given quadratic equation(without imaginary roots)

Program code:

```
#include<stdio.h>
#include<math.h>
void main()
{
      int a,b,c,dis;
      float root1,root2;
      printf("Enter the coefficients a,b and c in a quadratic equation
ax^2+bx+c=0\n");
      scanf("%d %d %d",&a,&b,&c);
      printf("The Quadratic equation is (%d)x^2+(%d)x+(%d)=0\n",a,b,c);
      dis=(b*b)-(4*a*c);
      if(dis>=0)
      {
            root1=((-b)+sqrt(dis))/(2*a);
            root2=((-b)-sqrt(dis))/(2*a);
            printf("The roots are %0.2f and %0.2f",root1,root2);
      }
      else
      {
            printf("The equation has complex roots");
      }
}
```

Output:

Enter the coefficients a,b and c in a quadratic equation ax^2+bx+c=0
12 23 34
The Quadratic equation is (12)x^2+(23)x+(34)=0
The equation has complex roots

Enter the coefficients a,b and c in a quadratic equation ax^2+bx+c=0
6 36 6
The Quadratic equation is (6)x^2+(36)x+(6)=0
The roots are -0.17 and -5.83