Assignment = 3

1. write a program to check weather a given number is positive or non positive.

```
#include <stdio.h>
int main()
{
        int x;
        printf("Enter Number : ");
        scanf("%d",&x);
        if(x>0)
        printf("\n Positive Number");
        else if(x<=0)
        printf("\n Non positive Number");
}
```

2. write a program to check weather a given number is divisible by 5 or not.

```
#include <stdio.h>
int main()
{
        int x;
        printf("Enter Number : ");
        scanf("%d",&x);
        if(x%5==0)
        printf("\n %d is divisible by 5",x);
        else
        printf("\n %d is not divisible by 5",x);
}
```

3. write a program to check weather a given number is even or odd.

```
#include <stdio.h>
int main()
{
        int x;
        printf("Enter Number : ");
        scanf("%d",&x);
        if(x%2==0)
```

```
        printf("\n Even Number");
        else
        printf("\n Odd Number");
}
```

4. write a program to check weather a given number is even or odd without using the modulus(%) operator.

```
#include <stdio.h>
int main()
{
        int x;
        printf("Enter Number : ");
        scanf("%d",&x);
        if(x&1)
        printf("\n Odd Number");
        else
        printf("\n Even Number");
}
```

5. write a program to check weather a given number is a three digit number or not.

```
#include <stdio.h>
int main()
{
        int x;
        printf("Enter Number : ");
        scanf("%d",&x);
        if(x>=100 && x<=999)
        printf("\n Three Digit Number");
        else
        printf("\n Not A Three Digit Number");
}
```

6. write a program to find greatest b/w to number if both same then print one of them.

```
#include <stdio.h>
int main()
{
        int x,y;
```

```
        printf("Enter Two Numbers : ");
        scanf("%d%d",&x,&y);
        if(x>=y)
        printf("\n Greater Number is %d",x);
        else
        printf("\n Greater Number is %d",y);
}
```

7. Write a program to check whether roots of a given quadratic equation are real & distinct, real & equal or imaginary roots.

```
#include <stdio.h>
#include <math.h>
int main()
{
        int a,b,c,d;
        float x,y;
        printf("Enter the Number for x^2 and x and constant term :");
        scanf("%d%d%d",&a,&b,&c);
        d=b*b-4*a*c;
        if(d>0)
        {
                printf("\n It is an Real and Distinct root");
                x=(-b+sqrt(d))/(2*a);
                y=(-b-sqrt(d))/(2*a);
                printf("\n The Roots Are %.3f and %.3f",x,y);
        }
        else if(d==0)
        {
                printf("\n It is an Real and Equal Roots");
                x=-b/(2.0*a);
                printf("\n The Root is %.3f",x);
        }
        else
        printf("\n It is an Imaginary root");
}
```

8. write program to find given year is leap year or not.

```
#include <stdio.h>
int main()
```

```
{
        int x;
        printf("Please Enter The Year :");
        scanf("%d",&x);
        if(x%4)
        printf("\n Not A Leap Year");
        else if(x%100)
        {
                printf("\n Leap Year");
        }
        else if(x%400)
        {
                printf("\n Not a Leap Year");
        }
        else
        printf("Leap Year");
}
```

9.Write a program to find the greatest among three given numbers. Print number once if the greatest number appears two or three times.

```
#include <stdio.h>
int main()
{
        int a,b,c;
        printf("Enter the three Number");
        scanf("%d%d%d",&a,&b,&c);
        if(a>=b)
        {
                if(a>c)
                printf("Greatest number is %d",a);
                else
                printf("Greatest number is %d",c);
        }
        else
        {
                if(b>=c)
                {
                        printf("greatest number is %d",b);
                }
                else
```

```
                printf("greatest number is %d",c);
        }
}
```

10.Write a program which takes the cost price and selling price of a product from the user. Now calculate and print profit or loss percentage.

```
#include <stdio.h>
int main()
{
        int a,b;
        float profit,loss;
        printf("Enter the cost price :");
        scanf("%d",&a);
        printf("Enter the Selling price :");
        scanf("%d",&b);
        if(a>=b)
    {
                loss=(float)a-b;
                loss=loss/a *(100);
                printf("loss price is %.3f",loss);
         }
        else
        {
                profit=(float)b-a;
                profit=profit/a *(100);
      printf("you made profit is %.3f",profit);
        }
}
```

11.Write a program to take marks of 5 subjects from the user. Assume marks are given out of 100 and passing marks is 33. Now display whether the candidate passed the examination or failed.

```
#include <stdio.h>
int main()
{
        int m1,m2,m3,m4,m5;
        printf("Enter the Marks of five subject :");
        scanf("%d%d%d%d%d",&m1,&m2,&m3,&m4,&m5);
```

```
        if(m1>=33 && m1<=100 && m2>=33 && m2<=100 && m3>=33 &&
m3<=100  && m4>=33 && m4<=100 && m5>=33 && m5<=100)
        {
                printf("Congratulations you pass the Examination");
        }
        else if(m1+m2+m3+m4+m5<=200)
        {
                printf("failed");
        }
        else if(m1>=100 || m2 >=100 || m3>=100 || m4>=100 || m5>=100)
        {
                printf("Enter The valid marks");
        }
        else
        {
                printf("Result can't be done becouse you will fail in one or more
subject");
        }
}
```

12. Write a program to check whether a given alphabet is in uppercase or lowercase.

```
#include <stdio.h>
int main()
{
        char ch;
        printf("Enter The Alphabet :");
        scanf("%c",&ch);
        if(ch<=65 || ch<=90)
        printf("uppercase");
        else if(ch<=97|| ch<=122)
        printf("Lowercase");

}
```

13. Write a program to check whether a given number is divisible by 3 and divisible by 2.

```
#include <stdio.h>
int main()
{
```

```
        int x;
        printf("Enter the Number :");
        scanf("%d",&x);
        if(x>2 && x>3)
        {
                if(x%2==0 && x%3==0)
                {
                        printf("It is Divisible by 2 And 3");
                }
                else
                printf("not divisible by 2 and 3");
        }
        else
        printf("Enter greatest number");
}
```

14. Write a program to check whether a given number is divisible by 7 or divisible by 3.

```
#include <stdio.h>
int main()
{
        int x;
        printf("Enter the Number :");
        scanf("%d",&x);
        if(x%3==0 && x%7==0)
          printf(" Divisible by both 3 and 7 ");
        else if(x%3==0)
                {
                        printf("Divisible by 3");
                }
                else if(x%7==0)
                printf("divisible by 7");
        else
        printf("Not Divisible by both");
}
```

15. Write a program to check whether a given number is positive, negative or zero.

```
#include<stdio.h>
int main()
{
```

```
        int x;
        printf("Enter The number :");
        scanf("%d",&x);
        if(x>0)
        printf("positive Number");
        else if(x==0)
        printf("Zero");
        else
        printf("Negative Number");

}
```

16. Write a program to check whether a given character is an alphabet (uppercase), an alphabet (lower case), a digit or a special character.

```
#include <stdio.h>
int main()
{
        char ch;
        printf("\nEnter the character :");
        scanf("%c",&ch);
        if(ch>=65 && ch<=90)
        printf("\nUppercase Character");
        else if(ch>=97 && ch<=122)
        printf("\nLowercase Character");
        else if(ch>=48 && ch<=57)
        printf("\nDigit ");
        else
        printf("\nSpecial Charcter");
}
```

17. Write a program which takes the length of the sides of a triangle as an input. Display whether the triangle is valid or not.

```
int main()
{
        int x,y,z;
        printf("Enter the sides of a triangle ");
        scanf("%d%d%d",&x,&y,&z);
        if(x+y>z && y+z>x &&x+z>y)
        {
                printf("valid Triangle");
        }
```

```
        else
        printf("not a valid triangle");
}
```

18. Write a program which takes the month number as an input and display number of days in that month.

```
#include <stdio.h>
int main()
{
        int x;
        printf("Please Enter The Month Number :");
        scanf("%d",&x);
        if(x==2)
        {
                printf("28 Days");
        }
        else if(x==1 || x==3 || x==5 || x==7 ||x==8 ||x==10 || x==12)
        {
                printf("31 Days");
        }
        else if(x==4 || x==6 || x==9 || x==11)
        {
                printf("30 Days");
        }
        else
        printf("Enter valid month Number");
}
```