# Assignment-3

① WAP to check whether a given number is positive or non positive.

```
#include<stdio.h>
int main()
{
  int x=0;
  if(x>0)
      printf("positive");
  else
      printf("Non positive");
  return 0;
}
```

Output: Non Positive.

② WAP to check whether a given number is divisible by 5 or not.

```
#include<stdio.h>
int main()
{
  int x=20;
  if(x%5==0)
      printf("divisible by 5");
  else printf("not divisible by 5");
  return 0;
}
```

Output: divisible by 5

③ WAP to check whether a given number is an even or an odd number.

```
#include<stdio.h>
int main()
{
  int num=12;
  if(num%2==0)
      printf("even");
  else
      printf("odd");
  return 0;
}
```

Output: even

④ WAP to check whether a given number is an even or odd without using % operator.

```
#include<stdio.h>
int main()
{
  int x=12;
  int temp=x&1;
  if(temp==0)
      printf("even");
  else printf("odd");
  return 0;}
```

Output: even

(5) WAP to check whether a given number is a 3-digit number or not.

```
#include<stdio.h>
int main()
{
  int x=100;
  if(x>99 && x<1000)
     printf(" 3 digit number");
  else
     printf(" not 3 digit number");
  return 0;
}
```

Output: 3 digit number.

(6) WAP to print greater b/w two numbers. Print one number if both are equal.

```
#include<stdio.h>
int main()
{
  int x=2, Y=3;
  if(x==y)
     printf(" both are same, number is %d ", x);
  else if(x>y)
     printf("%d is greater ", x);
  else printf("%d is greater", y);
  return 0;
}
```

Output: 3 is greater

(7) WAP to check whether roots of a given Quadratic eqn are real & distinct, real & equal or imaginary roots.

```
#include<stdio.h>
int main()
{
  int a,b,c;
  printf("ax^2+bx+c=0");
  printf("\n Enter value of a,b & c");
  scanf("%d%d%d", &a, &b, &c);
  int D= b*b-4*a*c;
  if(D>0)
     printf(" real and distinct");
  else if(D<0)
     printf(" Imaginary roots");
  else
     printf(" real and equal");
  return 0;
}
```

Input: ax^2+bx+c=0
Enter value of a, b & c
1 3 2

Output: Real and distinct

⑧ WAP to check whether a given year is a leap year or not.

```
#include<stdio.h>
int main()
{
  int year=2020;
  if(year%4==0)
     printf("Leap year");
  else
     printf("Non Leap year");
  return 0;
}
```

output: Leap Year

⑨ WAP 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=5, b=5, c=4;
  int greater = a>b ? (a>c ? a : c) : (b>c ? b : c);
  printf("%d", greater);
  return 0;
}
```

output: 5

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

```
#include<stdio.h>
int main()
{
  float SP=10.8, CP=25.0;
  if(CP>SP)
     printf("Loss percentage is %f %%", ((CP-SP)/CP)*100);
  else
     printf("Profit Percentage is %f %%", ((SP-CP)/CP)*100);
  return 0;
}
```

output: Loss percentage is 60.000004 %

(11) WAP to take marks of 5 subjects from the user. Assum marks are given out of 100 and passing mark is 33. Now display whether the candidate passed the examination or failed.

```
#include<stdio.h>
int main()
{
  int S1,S2,S3,S4,S5;
  printf("Enter marks of your 5 subjects");
  scanf("%d %d %d %d %d",&S1,&S2)
  scanf("%d %d %d %d %d",&S1,&S2,&S3,&S4,&S5);
  int sum = S1+S2+S3+S4+S5;
int float avg = sum/5;
  if(avg >=33)
      printf("Passed");
  else
      printf("Failed");
  return 0;
}
```

Input: Enter marks of your 5 subjects
50 60 80 40 55
Output: Passed

(12) WAP to check whether a given alphabet is in uppercase or lowercase.

```
#include<stdio.h>
int main()
{ char c = 'A';
  if(c>='A' && c<='Z')
      printf("Uppercase");
  else if(c>='a' && c<='z')
      printf("Lowercase");
  return 0;
}
```

Output: Uppercase

(13) WAP to check whether given number is divisible by 3 and divisible by 2.

```
#include<stdio.h>
int main()
{ int x=24;
  if(x%2==0 && x%3==0)
      printf("divisible by 3 and divisible by 2");
  else printf("Not divisib
} return 0;
```

(14) WAP to check whether a given number is divisible by 7 or divisible by 3.

```
#include<stdio.h>
int main()
{
  int x=21;
  if(x%7==0 || x%3==0)
      printf("Number divisible by 7 or 3");
  return 0;
}
```

(15) WAP to check whether a given number is positive, negative or zero.

```
#include<stdio.h>
int main()
{
  int x = 2;
  if(x>0)
      printf("positive");
  else if(x<0)
      printf("Negative");
  else
      printf("zero");
  return 0;
}
```

output: Positive.

(16) WAP to check whether a given character is an alphabet (uppercase), an alphabet (lowercase), a digit or a special character.

```
#include(stdio.h>
int main()
{
  char A='0';
  if(A>='A' && A<='Z')
      printf("An alphabet(Uppercase)");
  if(A>='a' && A<='z')
      printf("An alphabet(Lowercase)");
  if(A>='0' && A<='9')
      printf("a digit");
  else printf("a special case");
  return 0;
}
```

output: a digit

(17) WAP which takes the length of the sides of a Δ as input. Display whether triangle is valid or not.

```
#include<stdio.h>
int main()
{
  int a, b, c;
  printf("Enter sides of triangle");
  scanf("%d%d%d", &a, &b, &c);
  if(a+b>c && b+c>a && c+a>b)
        printf("Valid");
  else
        printf("Not Valid");
  return 0;
}
```

Input: Enter sides of triangle
2 3 4

Output: Valid

(18) WAP which takes the month number as an input and display number of days in that month.

```
#include<stdio.h>
int main()
{
  int n=1;
  if(n==1 || n==3 || n==5 || n==7 || n==8 || n==10
                                  || n==12)
        printf("31 days of this month");
  if(n==4 || n==6 || n==9 || n==11)
        printf("30 days of this month");
  if(n==2)
        printf("28 or 29 days of this month");
  return 0;
}
```

Output: 31 days of this month