1. Write a program to check whether a given number is positive or non-positive.

```
#include<stdio.h>
int main ()
{
   int n;
   printf("enter number :");
   scanf("%d",&n);
   if(n>0)
   {
      printf("the number is positive :");
   }
   else
      printf("the number is non positive :");
   return 0;
}
```

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

```
#include<stdio.h>
int main ()
{
   int n;
   printf("enter number :");
   scanf("%d",&n);
   if(n%5==0)
   {
      printf("the number %d is divisible by 5 :",n);
   }
   else
      printf("the number %d in not divisible by 5 :",n);
   return 0;
}
```

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

number.

```
#include<stdio.h>
int main ()
{
   int n;
   printf("enter number :");
   scanf("%d",&n);
   if(n%2==0)
   {
      printf("the number %d is even  :",n);
   }
   else
      printf("the number %d is not even  :",n);
   return 0;
}
```

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

```
#include<stdio.h>
int main ()
{
   int n;
   printf("enter number :");
   scanf("%d",&n);
   if(!(n&1))
   {
      printf("the number %d is even  ",n);
   }
   else
      printf("the number %d is not even  ",n);
   return 0;
}
```

5. Write a program to check whether a given number is a three-digit number or not.

```
#include<stdio.h>
int main ()
{
   int n;
   printf("enter number :");
   scanf("%d",&n);
   if(n>99 && n<999)
   {
      printf("The number is three digit :");
   }
   else
      printf("The number is not three digit");
   return 0;
}
```

6. Write a program to print greater between two numbers. Print one number of both are the same.

```
#include<stdio.h>
int main ()
{
   int n1,n2;
   printf("enter first number :");
   scanf("%d",&n1);
   printf("\n enter second number :");
   scanf("%d",&n2);
   if(n1>n2)
   {
      printf("The number %d is greater :",n1);
   }
   else
```

```
        printf("The number %d is greater :",n2);
    return 0;
}
```

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

```
#include<stdio.h>
int main ()
{
    int b,a,c;
    printf("Enter the value of b:");
    scanf("%d",&b);
    printf("\n enter the value of a and c  :");
    scanf("%d %d",&a,&c);
    if(b*b-4*a*c>0)
    {
        printf("Roots are real and distinct :");
    }
    else if (b*b-4*a*c>=0)
    {
        printf("Roots are real and equal :");
    }
    else
        printf("Roots are imagenary :");
    return 0;
}
```

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

```
#include <stdio.h>
int main() {
  int year;
  printf("Enter a year: ");
  scanf("%d", &year);
```

```
  if (year % 400 == 0)
   {
     printf("%d is a leap year.", year);
   }
  else if (year % 100 == 0)
  {
     printf("%d is not a leap year.", year);
  }
  else if (year % 4 == 0)
  {
     printf("%d is a leap year.", year);
  }

  else
  {
     printf("%d is not a leap year.", year);
  }

  return 0;
}
```

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 n1,n2,n3;
  printf("Enter three number :");
  scanf("%d%d%d",&n1,&n2,&n3);
  if(n1>n2 && n1>n3)
  {
      printf("%d is greater ",n1);
```

```
  }
   if(n2>n1 && n2>n3)
  {
     printf("%d is greater ",n2);
  }
  else
   printf("%d is greater ,",n3);
  return 0;
}
```

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 costPrice , sellingPrice;
    printf("enter amount of costprice and sellingprice");
    scanf("%d%d",&costPrice,&sellingPrice);
   if(sellingPrice == costPrice)
   {
      printf("No profit no loss ");
   }

   else if (sellingPrice > costPrice)
   {
      printf("profit");
   }

   else
      printf("loss ");
   return 0;
}
```

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 math,phy,chm,bio,eng;
  int max=100;
  printf("Enter marks of math,phy,chm,bio and eng:");
  scanf("%d%d%d%d%",&math,&phy,&chm,&bio,&eng);
  int total=0;
  total=math+phy+chm+bio+eng;
  if(total>=165)
  {
     if(math>=33 & phy>=33 & chm>=33 & bio>=33 & eng>=33)
     {
        printf("student is pass ");
     }
     else
      printf("student is fail ");
  }
  return 0;
}
```

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

```
#include <stdio.h>
int main()
{
   char a;
   printf("enter a character ");
   scanf("%c",&a);
   if(a>='A' && a<='Z')
```

```
    {
        printf("This is upper case of character ");
    }
    else
    printf(" this is lower case ");
    return 0;
}
```

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

```
#include <stdio.h>
int main()
{
    int num1;
    printf("enter number for check of divisibilty of 2 and 3->\n");
    scanf("%d",&num1);
    if(num1%2==0 && num1%3==0)
    {
        printf("\n number is divisible ");
    }
    else
        printf("number is not divisible ");
    return 0;
}
```

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

```
#include <stdio.h>
int main()
{
    int num1;
    printf("enter number for check of divisibilty of 7 and 3->\n");
    scanf("%d",&num1);
```

```
    if(num1%7==0 || num1%3==0)
    {
        printf("\n number is divisible ");
    }
    else
        printf("number is not divisible ");
    return 0;
}
```

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

```
#include <stdio.h>
int main()
{
    int num;
    printf("enter a number to check positive , negative  and zero ");
    scanf("%d",&num);
    if(num>0)
    {
        printf("number is positive ");
    }
    else if(num<0)
    {
        printf("number is negative ");
    }
    else
        printf("number is zero ");
}
```

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 a;
   printf("enter a character or number or special character  ");
   scanf("%c",&a);
   if(a>='A' && a<='Z')
   {
      printf("This is upper case of character ");
   }
   else if(a>='a' && a<='z')
   {
      printf("This is lower case of character ");
   }

   else
   printf(" It is digit  ");
   return 0;
}
```

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.

```
 #include <stdio.h>
int main()
{
   int a,b,c;
   printf("Enter three side of traingle :");
   scanf("%d%d%d",&a,&b,&c);
    if (a + b <= c || a + c <= b || b + c <= a)
    {
        printf("valid traingle ");
    }
    else
        printf("not valid traingle ");
```

```
    return 0;
}
```

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 N;
   printf("Enter a month number ");
   scanf("%d",&N);
    if (N == 1 || N == 3 || N == 5|| N == 7 || N == 8 || N == 10|| N == 12)
   {
      printf("31 Days.");
   }
   else if (N == 4 || N == 6|| N == 9 || N == 11)
   {
      printf("30 Days.");
   }
   else if (N == 2)
   {
      printf("28/29 Days.");
   }
   else
   {
      printf("Invalid Month.");
   }
   return 0;
}
```