```
//1. Write a program to check whether a given number is positive or non-positive.
#include<stdio.h>
int main()
{
  int a;
  printf("Enter a number:");
  scanf("%d",&a);
  if(a>0)
     printf("Enter number is positive");
  if(a<=0)
     printf("Enter 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 a;
  printf("Enter a number:");
  scanf("%d",&a);
  if(a%5==0)
  {
     printf("Number is divisible by 5");
  else
     printf("Number is not divisible by 5");
    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 a;
  printf("Enter a number:");
  scanf("%d",&a);
  if(a%2==0)
      printf("Number is Even");
  else
     printf("Number is odd");

    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 a;
  printf("Enter a number:");
  scanf("%d",&a);
  if(a/2*2==a)
      printf("Number is even");
  else
      printf("Number is odd");
```

```
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 a number:");
   scanf("%d",&n);
   if(n>=100 && n<=999)
      printf("Number is three digit.");
   else
      printf("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 a,b;
  printf("Enter two numbers:");
  scanf("%d %d",&a,&b);
  if(a>b)
     printf("%d is greater than %d.",a,b);
  else
     printf(" %d is lesser than %d.",a,b);
```

```
    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 a,b,c,disc;
    printf("Enter a  nunmbers:");
    scanf("%d%d%d",&a,&b,&c);
    disc=b*b-4*a*c;
    if(disc>0)
        printf("Roots are real and distinct");
    else if(disc<0)
        printf("Imaginary");
    else
        printf("Real and equal");
    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%4==0)
      printf("Leap year");
   else
      printf("Not leap 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 a,b,c;
   printf("Enter a  nunmbers:");
   scanf("%d%d%d",&a,&b,&c);
   if(a>b)
   {
      if(a>c)
      printf("%d",a);
      else
         printf("%d",c);

   }
   else
   {
      if(b>c)
         printf("%d",b);
      else
```

```
        printf("%d",c);
    }
    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()
{
    float sp,cp,profit,loss;
    printf("Enter cost price:");
    scanf("%f",&cp);
    printf("Enter selling price:");
    scanf("%f",&sp);
    if(sp>cp)
    {
        printf("You are in prifit.\n");
        profit=(sp-cp)/cp*100;
        printf("Profit in percentage %f.",profit);
    }
    else
    {
        printf("You are in loss.\n");
        loss=(cp-sp)/cp*100;
        printf("Loss in percentage %f.",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 hin,eng,mar,math,sci;
   printf("Enter the marks of a subject:");
   scanf("%d%d%d%d%d",&hin,&eng,&mar,&math,&sci);
   if(hin>=33 && eng>=33 && mar>=33 && math>=33 && sci>=33)
      printf("Candidate passed in examination.");
   else
      printf("candidate failed in examination.");
     return 0;
}
```

```
//12. Write a program to check whether a given alphabet is in uppercase or lowercase.
#include<stdio.h>
int main()
{
   char ch;
   printf("Enter an alphabet:");
   scanf("%c",&ch);
   if(ch>='A' && ch<='Z')
      printf("Alphabet is uppercase.");
   else
    printf("Alphabet is lowercase.");
```

```
      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 a;
  printf("Enter a number:");
  scanf("%d",&a);
  if(a%3==0 && a%2==0)
   printf("Number is may be divisible by either 3 and 2 or both.");
     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 a;
  printf("Enter a number:");
  scanf("%d",&a);
  if(a%7==0 || a%3==0)
   printf("Number is divisible by either 7 or 3.");
  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 a;
  printf("Enter a number:");
  scanf("%d",&a);
  if(a>0)
   printf("Number is positive");
  else if(a<0)
   printf("Number is negative");
  else
   printf("Number is zero");
     return 0;
}


//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("Enter a character:");
  scanf("%c",&ch);
  if(ch>='a' && ch<='z')
   printf("Character is lowercase alphabet.");
  else if(ch>='A' && ch<='Z')
   printf("character is uppercase alphabet.");
```

```
   else if(ch>='0' && ch<=9)
   printf("Character is digit.");
   else
      ("Secial character.");
    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 sides of a triangle:");
 scanf("%d%d%d",&a,&b,&c);
 if(a+b>c && a+c>b && b+c>a)
   printf("Triangle is valid.");
 else
   printf("Triangle is not valid.");
     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 number of month:");
```

```
    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;
}
```