Assignment no. 03

Q.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\n");

    scanf ("%d",&n);

    if(n>0){

        printf("positive number\n");

    }

    else{

        printf ("non positive number\n");

    }

    return 0;

}

Q.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\n");

    scanf ("%d",&n);

    if (n%5 == 0)

    {

        printf ("number is divisible by 5");

    }

    else

    {

        printf ("number is not divisible by 5");

    }

    return 0;

}

Q.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\n");

    scanf ("%d",&n);

    if (n%2 == 0)

    {

        printf ("number is even\n");

    }

    else

    {

        printf ("number is odd");

    }

    return 0;

}

Q.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\n");

    scanf ("%d",&n);

    if ((n&1) == 0)

    {

        printf ("number is even\n");

    }

    else

    {

        printf ("number is odd");

    }

    return 0;

}

Q.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\n");

    scanf ("%d",&n);

    if (n<1000 && n>=100)

    {

        printf ("three digit number\n");

    }

    else

    {

        printf ("not a three digit number");

    }

    return 0;

}

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

#include <stdio.h>

int main()

{

    int a,b;

    printf ("enter two numbers\n");

    scanf ("%d %d",&a, &b);

    if (a>b)

    {

        printf ("greatest number is %d",a);

    }

    else if(a==b)

    {

        printf ("both are %d",a);

    }

    else

    {

        printf ("greatest number is %d",b);

    }

    return 0;

}

Q.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;

    printf ("enter quadratic equation\n");

    scanf ("%dpow(x,2)+%dx+%d",a,b,c);

    if (pow(b,2)-4\*a\*c >0)

    {

        printf ("roots are real and distinct\n");

    }

    else if (pow(b,2)-4\*a\*c ==0)

    {

        printf ("roots are real and equal\n");

    }

    else if (pow(b,2)-4\*a\*c <0)

    {

        printf ("roots are imaginary\n");

    }

    return 0;

}

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

#include <stdio.h>

int main()

{

    int yr;

    printf ("enter year\n");

    scanf ("%d",&yr);

    if (yr%4 == 0)

    {

        printf ("leap year\n");

    }

    else

    {

        printf ("not a leap year\n");

    }

    return 0;

}

Q.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 three numbers\n");

    scanf ("%d %d %d"&a,&b,&c);

    if (a>b && a>c)

    {

        printf ("%d",a);

    }

    else if (b>c)

    {

        printf ("%d",b);

    }

    else

    {

        printf ("%d",c);

    }

    return 0;

}

Q.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;

   printf ("enter selling price\n");

   scanf ("%f",&sp);

   printf ("enter coast price\n");

   scanf ("%f",&cp);

   if(sp-cp >=0)

   {

    printf ("profit percentage is %f",((sp-cp)/cp)\*100);

   }

   else

   {

    printf ("loss percentage is %f",((cp-sp)/cp)\*100);

   }

    return 0;

}

Q.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 i,m;

  for(i=1 ; i<=5 ; i++)

  {

    printf ("enter marks from 100\n");

    scanf ("%d",&m);

    if(m>=33 && m<=100)

    {

        printf ("pass\n");

    }

    else

    {

        printf ("fail\n");

    }

  }

    return 0;

}

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

#include <stdio.h>

int main()

{

  char ch;

  printf ("enter alphabet\n");

  scanf ("%c",&ch);

  if(ch>='A' && ch<='Z')

  {

    printf ("alphabet is in upper case\n");

  }

  else if (ch>='a' && ch<='z')

  {

    printf ("alphabet is in lower case\n");

  }

    return 0;

}

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

#include <stdio.h>

int main()

{

  int n;

  printf ("enter number\n");

  scanf ("%d",&n);

  if(n%6==0)

  {

    printf ("number is divisible by both 2 and 3\n");

  }

  else

  {

    printf ("number is not divisible 2 and 3\n");

  }

    return 0;

}

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

#include <stdio.h>

int main()

{

  int n;

  printf ("enter number\n");

  scanf ("%d",&n);

  if(n%3==0 || n%7==0)

  {

    printf ("number is divisible by 3 or 7\n");

  }

  else

  {

    printf ("number is not divisible 3 or 7\n");

  }

    return 0;

}

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

#include <stdio.h>

int main()

{

  int n;

  printf ("enter number\n");

  scanf ("%d",&n);

  if (n>0)

  {

    printf ("positive number\n");

  }

  else if (n<0)

  {

    printf ("negative number\n");

  }

  else

  {

    printf ("number is zero");

  }

    return 0;

}

Q.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;

  int a;

  printf ("enter character\n");

  scanf ("%c",&ch);

  if(ch>='A' && ch<='Z')

  {

    printf ("alphabet is in upper case\n");

  }

  else if (ch>='a' && ch<='z')

  {

    printf ("alphabet is in lower case\n");

  }

  else if (ch>=0 || ch<0)

  {

    printf ("digit\n");

  }

  else

  {

    printf ("special character\n");

  }

    return 0;

}

Q.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 sides of a triangle\n");

 scanf ("%d %d %d",&a,&b,&c);

 if (a+b>c || b+c>a)

 {

   printf ("valid triangle\n");

 }

 else if (a+c>b)

 {

    printf ("valid triangle\n");

 }

 else

 {

    printf ("not a valid triangle\n");

 }

    return 0;

}

Q.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 number from 1 to 12\n");

    scanf ("%d",&n);

    if (n==1 || n==3 || n==5 || n==7 || n==8 || n==10 || n==12)

    {

        printf ("number of days are 31\n");

    }

    else if (n==2 || n==4 || n==6 || n==9 || n==11)

    {

        printf ("number of days are 30\n");

    }

    else

    {

        printf ("not a valid number for a month\n");

    }

    return 0;

}