ASSIGNMENT 03

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

int main()

{

int n;

printf("Enter a number : ");

scanf ("%d",&n);

if(n !=0)

{

if(n>0)

printf("Positive");

else

printf("Non-Positive");

}

return 0;

}

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

#include<stdio.h>

int main()

{

int x;

printf("Enter a number :");

scanf("%d",&x);

if(x%5==0)

printf("%d is divisible by 5" ,x);

else

printf("%d is not divisible by 5",x);

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 ("%d is an Even number",a);

else

printf ("%d" is an even number");

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&1==0)

   printf ("%d is an Even number",a);

 else

    printf ("%d is an odd Number",a);

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 a;

printf ("Enter a number:");

scanf ("%d”, &a);

if (a/100! =0 && a/1000==0)

printf ("%d is three-digit number");

else

printf ("%d is not a three-digit number “, a);

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=0,c=0,d;

printf("enter coefficients of qudratic equation\n");

scanf("%d %d %d",&a,&b,&c);

printf("\n Quadratic equation is: %dx^2 + %dX +%d",a,b,c);

d=b\*b-4\*a\*c;

printf("\nValue of d= %d\n",d);

if(d>0)

printf("Roots are real and distinct");

else if(d==0)

printf("Roots are real and equal");

else

printf("roots are imaginary");

return 0;

}

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

#include<stdio.h>

int main()

{

int Y;

printf("Enter an year: ");

scanf("%d",&Y);

if(Y%4==0 || Y%400==0)

printf("%d is a leap year",Y);

else

printf("%d is not a leap year ",Y);

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 three numbers:");

    scanf ("%d%d%d”, &a,&b,&c);

    if(a>=b)

    {

       if(a>=c)

          printf ("%d is the largest number",a);

       else

          printf ("%d is largest number",c);

    }

    else

    {

        if(b>=c)

           printf ("%d is largest",b);

        else

           printf ("%d is largest",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>

#include<math.h>

int main()

{

int cp ,sp , d,per;

printf("Enter cost price and selling price of product :");

scanf("%d %d",&cp,&sp);

d=abs(cp-sp);

per=(d\*100)/cp;

if(cp>sp)

printf("\nLoss percentage is =%d",per);

else

printf("\nprofit percentage is =%d",per);

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 s1,s2,s3,s4,s5;

    printf ("Enter marks of 5 subjects upto 100 :\n");

    scanf ("%d\n %d\n %d\n %d\n %d",&s1,&s2,&s3,&s4,&s5);

 if (s1<=100 && s2<=100 && s3<=100 && s4<=100 && s5 <=100)

 {

        if(s1>=33 && s2>=33 && s3>=33 && s4>=33 && s5>=33)

               printf("Passed");

        else

        printf("Failed");

 }

    else

      printf ("You have entered wrong marks.\n Please check");

    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 an Alphabet:");

    scanf("%c",&a);

    if (a>=65 && a<=90)

    {

        Printf ("%C is an Upper-case Alphabet”, a);

    }

    else

       printf ("%C is a Lower-case Alphabet”, a);

    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 x,exp;

    printf("Enter a Number :");

    scanf("%d",&x);

    // Method-1

    // if(x%3==0)

    // {

    //    if(x%2==0)

    //    printf ("%d is divisible by both 2 and 3",x);

    //    else

    //    printf ("%d is not divisible by 2 and 3",x);

    // }

    //Method-2

    if (x%3==0 && x%2==0)

       printf("%d is divisible by Both 2 and 3");

    else

        printf("%d is  NOT divisible by 2 and 3");

      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%3==0)

    //    printf ("%d is divisible by 3 ");

    // else if(a%7==0)

    //    printf ("%d is divisible by 3 ");

     If (a%3==0 || a%7==0)

       printf ("%d is divisible by 3 or 7”, a);

    else

       printf ("%d is not divisible by 3 or 7", a);

}

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

#include<stdio.h>

int main ()

{

    int x;

    printf ("Enter a Number:");

    scanf ("%d”, &x);

    if(x>0)

     printf ("%d is a positive Number”, x);

    else if(x==0)

     printf ("Zero");

    else

    printf ("%d is a negative Number”, x);

    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 c;

    printf("Enter a character:");

    scanf("%c",&c);

    if(c>=65 && c<=90)

         printf("%c is Upper case Alphabet",c);

    else if(c>=97 && c<=122)

         printf("%c is Lower Case Alphabet ",c);

    else if(c>=32 && c<=47 || c>=58 && c<=64 || c>=91 && c<=96 || c>=123 && c<=126)

         printf("%c is a special character",c);

    else

         printf("Others");

    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 triangle :");

    scanf("%d%d%d",&a,&b,&c);

    if((a+b)>c && (a+c)>b && (b+c)>a)

         printf("Valid triangle");

    else

         printf("Invalid");

  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 M;

    printf("Enter Month Number:");

    scanf("%d",&M);

//Method-1

    if(M==1)

        printf("No of days in January month is 31");

     else if(M==2)

        printf("No of days in February month is 28 or 29");

     else if(M==3)

        printf("No of days in March month is 31");

     else if(M==4)

        printf("No of days in April month is 30");

     else if(M==5)

        printf("No of days in May month is 31");

     else if(M==6)

        printf("No of days in June month is 30");

     else if(M==7)

        printf("No of days in JULY month is 31");

     else if(M==8)

        printf("No of days in AUGUST month is 31");

     else if(M==9)

        printf("No of days in SEPTEMBER month is 30");

     else if(M==10)

        printf("No of days in OCTOBER month is 31");

     else if(M==11)

        printf("No of days in NOVEMBER month is 30");

     else if(M==12)

        printf("No of days in DECEMBER month is 31");

    else

        printf("invalid Month");

    //Method-02

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

          printf("No of Days in this month is 31");

    else if(M==2)

         printf("No of Days in this Month is 28 or 29");

    else if(M==4||M==6||M==9||M==11)

         printf ("No of Days in this Month is 30");

    else

        printf("Invalid Month");

  return 0;

}