Q1-> Write a program to check whether a given number is positive or non-positive.

**Answer:**

#include<stdio.h>

int main()

{

    int x;

    printf("Please enter a number: ");

    scanf("%d",&x);

    if (x>0)

    {

     printf("The provided number is Positive");

    }

    if (x<0)

    {

     printf("The provided number is Negative");

    }

    return 0;

}

Q2-> Write a program to check whether a given number is divisible by 5 or not

**Answer:**

#include<stdio.h>

int main()

{

    int x;

    printf("Please enter a number: ");

    scanf("%d",&x);

    if (x%5==0)

    {

     printf("The provided number is divisible");

    }

    else

    {

     printf("The provided number is not Divisible");

    }

    return 0;

}

Q3-> Write a program to check whether a given number is an even number or an odd number.

**Answer:**

#include<stdio.h>

int main()

{

int a;

printf("ENter the Number: ");

scanf("%d",&a);

if (a%2==0)

    printf("The provide number is Even");

else

    printf("The provided number is Odd");

return 0;

}

**Q4->** Write a program to check whether a given number is an even number or an odd number without using % operator.

Answer:

#include<stdio.h>

int main()

{

int a;

printf("ENter the Number: ");

scanf("%d",&a);

if (a&1==1)

    printf("The provide number is Odd");

else

    printf("The provided number is Even");

return 0;

}

**Q5->** . Write a program to check whether a given number is a three-digit number or not.

Answers:

#include<stdio.h>

int main()

{

int a,x;

printf("Enter the number: ");

scanf("%d",&a);

x=printf("%d",a);

if(x==3)

    printf("\nThe provided number is of three digit");

else

    printf("\nThis number is not of three digit");

return 0;

}

**Q6-> Write a program to print greater between two numbers. Print one number of both are**

**the same.**

**Answers:**

#include<stdio.h>

int main()

{

int a,x;

printf("Enter the number: ");

scanf("%d",&a);

printf("Enter another number: ");

scanf("%d",&x);

if(x>a)

    printf("\nThe greater number is: %d",x);

if(x<a)

    printf("\nThe greater number is: %d",a);

if(x==a)

    printf("\nThe number is equal: %d",x);

return 0;

}

**Q7->** Write a program to check whether roots of a given quadratic equation are real & distinct, real & equal or imaginary roots

Answer:  
#include<stdio.h>

int main()

{

double a,b,c,d;

printf("Enter the value of \'a\' in this quadratic equation a\*x\*x+b\*x+c=0: ");

scanf("%lf",&a);

printf("Enter the value of \'b\' in this quadratic equation a\*x\*x+b\*x+c=0: ");

scanf("%lf",&b);

printf("Enter the value of \'c\' in this quadratic equation a\*x\*x+b\*x+c=0: ");

scanf("%lf",&c);

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

if(d==0)

    printf("The roots of given quadratic equation is real & equal");

if(d>0)

    printf("The roots of given quadratic equation is real & distinct");

if(d<0)

    printf("The roots of given quadratic equation is not real");

return 0;

}

**Q8->** Write a program to check whether a given year is a leap year or not.

Answer:

#include<stdio.h>

int main()

{

int Year;

printf("Type the year to find leapyear: ");

scanf("%d",&Year);

if(Year%100==0)

    {

        if(Year%400==0)

        {

            printf("This year %d is leap Year",Year);

        }

        else

        {

            printf("This year %d is not leap Year",Year);

        }

    }

else

    {

        if(Year%4==0)

        {

            printf("This Year %d is Leap Year");

        }

        else

        {

            printf("This year %d is not leap Year",Year);

        }

    }

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.

Answer:

**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.

Answer:

#include<stdio.h>

int main()

{

float CostPrice, SellingPrice, Loss, Profit, ProfitPercentage, LossPercentage;

printf("Enter the Cost Price of product: ");

scanf("%f",&CostPrice);

printf("\nEnter the Selling Price of product: ");

scanf("%f",&SellingPrice);

if(CostPrice>SellingPrice) //Loss percentage calculation

    {

        Loss=CostPrice-SellingPrice;

        LossPercentage=Loss/CostPrice\*100;

        printf("Incurred loss is %.2f",LossPercentage);

    }

    if(CostPrice<SellingPrice) //Profir percentage Calculation

    {

        Profit=SellingPrice-CostPrice;

        ProfitPercentage=Profit/CostPrice\*100;

        printf("Incurred profit is %.2f",ProfitPercentage);

    }

    if(CostPrice==SellingPrice) //No Loss No Profit

    {

        printf("Vendor neither incurred profit nor loss");

    }

return 0;

}

**Q11->** 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.

Answer:

#include<stdio.h>

int main()

{

int Subject1, Subject2, Subject3, Subject4, Subject5;

printf("Enter the mark of Subject1: ");

scanf("%d",&Subject1);

printf("Enter the mark of Subject2: ");

scanf("%d",&Subject2);

printf("Enter the mark of Subject3: ");

scanf("%d",&Subject3);

printf("Enter the mark of Subject4: ");

scanf("%d",&Subject4);

printf("Enter the mark of Subject5: ");

scanf("%d",&Subject5);

if(Subject1>=33)

    {

        if(Subject2>=33)

            {

                if(Subject3>=33)

                    {

                        if(Subject4>=33)

                            {

                                if(Subject5>=22)

                                    {

                                        printf("This student passed all the subject");

                                    }

                                    else

                                    {

                                        printf("This student failed the exam due to subject5");

                                    }

                            }

                            else

                            {

                                printf("This student failed the exam due to subject4 ");

                            }

                    }

                    else

                    {

                        printf("This student failed the exam due to subject3 ");

                    }

            }

            else

            {

                printf("This student failed the exam due to subject2 ");

            }

    }

    else

    {

        printf("This student failed the exam due to subject1 ");

    }

return 0;

}

**Q12->** Write a program to check whether a given alphabet is in uppercase or lowercase.

Answer:

#include<stdio.h>

int main()

{

    char Letter;

    printf("Enter the letter: ");

    scanf("%c",&Letter);

//Idnetification of Lowercase Letter

    if(Letter>=97)

    {

        if(Letter<=122)

        {

            printf("This is lowercase letter");

        }

    }

//Identification of Uppercase Letter

    if(Letter>=65)

    {

        if(Letter<=95)

        {

            printf("This is uppercase letter");

        }

    }

    return 0;

}

**Q13->** Write a program to check whether a given number is divisible by 3 and divisible by 2

Answer:

#include<stdio.h>

int main()

{

    int Number;

    printf("Enter a number: ");

    scanf("%d",&Number);

    if(Number%2==0)

    {

        if(Number%3==0)

        {

            printf("The given number is divisible by 2 and 3 both");

        }

    }

    else

    {

        printf("The given number is not divisible by 2 or 3");

    }

    return 0;

}

**Q14->** Write a program to check whether a given number is divisible by 7 or divisible by 3.

Answer:

#include<stdio.h>

int main()

{

    int Number,x,y;

    printf("Enter a number: ");

    scanf("%d",&Number);

    x=Number%7;

    y=Number%3;

    if(x+y!=0)

    {

            if(x==0)

            {

                printf("The given number is divisible by 7");

            }

            if(y==0)

            {

                printf("The given number is divisible by 3");

            }

    }

    else

    {

        printf("The given number  divisible by both 7 & 3 ");

    }

    if(x!=0)

    {

        if(y!=0)

        {

            printf("This number is neither divisible by 7 nor 3");

        }

    }

    return 0;

}

**Q15->** Write a program to check whether a given number is positive, negative or zero.

Answer:

#include<stdio.h>

int main()

{

    int Number;

    printf("Enter a number: ");

    scanf("%d",&Number);

    //Find Positive Number

    if(Number>0)

    {

        printf("This number is positive");

    }

    //Find Negative Number

    if(Number<0)

    {

        printf("This number is Negative");

    }

    //Find Number Zero

    if(Number==0)

    {

        printf("This number is Zero");

    }

    return 0;

}

**Q16->** Write a program to check whether a given character is an alphabet (uppercase), an alphabet (lower case), a digit or a special character.

Answer:

#include<stdio.h>

int main()

{

    char Letter;

    printf("Enter the letter: ");

    scanf("%c",&Letter);

//Idnetification of Lowercase Letter

    if(Letter>=97)

    {

        if(Letter<=122)

        {

            printf("This is lowercase letter");

        }

    }

//Identification of Uppercase Letter

    if(Letter>=65)

    {

        if(Letter<=95)

        {

            printf("This is uppercase letter");

        }

    }

//Identification of Digit

    if(Letter>=48)

    {

        if(Letter<=57)

        {

            printf("This is digit");

        }

    }

//Identification of symbol

    if(Letter>=33)

    {

        if(Letter<=42)

        {

            printf("This is Symbol");

        }

    }

    if(Letter>=58)

    {

        if(Letter<=64)

        {

            printf("This is Symbol");

        }

    }

    if(Letter>=91)

    {

        if(Letter<=96)

        {

            printf("This is Symbol");

        }

    }

    if(Letter>=123)

    {

        if(Letter<=136)

        {

            printf("This is Symbol");

        }

    }

    return 0;

}

**Q17->** Write a program which takes the length of the sides of a triangle as an input. Display whether the triangle is valid or not.

Answer:

#include<stdio.h>

int main()

{

    int a,b,c;

    printf("Enter the measurement of first side of triangle: ");

    scanf("%d",&a);

    printf("Enter the measurement of second side of triangle: ");

    scanf("%d",&b);

    printf("Enter the measurement of one side of triangle: ");

    scanf("%d",&c);

    if(a+b>c)

        {

            if(a+c>b)

                {

                    if(b+c>a)

                        {

                            printf("This is perfect triangle");

                        }

                        else

                        {

                            printf("This is not valid triangle");

                        }

                }

                else

                {

                    printf("This is not valid triangle");

                }

        }

        else

        {

            printf("This is not valid triangle");

        }

return 0;

}

**Q18->** Write a program which takes the month number as an input and display number of days in that month

Answer:

#include<stdio.h>

int main()

{

    int a;

    printf("Enter the month number: ");

    scanf("%d",&a);

    if(a<=12)

    {

        if(a%2==0)

        {

                if(a==0)

                {

                    printf("This is not valid month number");

                }

                if(a==2)

                {

                    printf("Number of days of this month is 28");

                }

                if(a>2)

                {

                    if(a<=6)

                    {

                        printf("Number of days in this month is 30");

                    }

                    else

                    {

                        printf("Number of days in this month is 31");

                    }

                }

        }

        else

        {

                if(a>=1)

                {

                    if(a<=7)

                    {

                        printf("Number of days in this month is 31");

                    }

                    else

                    {

                        printf("Number of days in this month is 30");

                    }

                }

        }

    }

    else

    {

        printf("This is not valid month Number");

    }

return 0;

}