**Program 1**

using System;

class Program

{

static void Main()

{

Console.WriteLine("Enter a Number");

int n = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter the width");

int w = Convert.ToInt32(Console.ReadLine());

DisplayNumberTriangle(n, w);

}

static void DisplayNumberTriangle(int number, int width)

{

for (int i = 1; i <= width; i++)

{

for (int j = 1; j <= i; j++)

{

Console.Write(number + " ");

}

Console.WriteLine();

}

}

}

**Program 2**

using System;

class Program

{

static void Main()

{

int[] arr1 = { 1, 8, 7, 9, 5 };

int[] arr2 = { 1, 3, 6, 4, 5};

bool areEqual = FirstOrLastEleEqual(arr1, arr2);

Console.WriteLine($"Are the first or last elements of the two arrays equal? {areEqual}");

}

static bool FirstOrLastEleEqual(int[] arr1, int[] arr2)

{

// Check if the arrays have at least one element

if (arr1.Length > 0 && arr2.Length > 0)

{

// Check if the first or last elements are equal

if (arr1[0] == arr2[0] || arr1[arr1.Length - 1] == arr2[arr2.Length - 1])

return true;

}

return false;

}

}

**Program 3**

using System;

class Program

{

static void Main()

{

Console.WriteLine("Enter Math marks:");

int mathMarks = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter physics marks:");

int physicsMarks = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter chemistry marks:");

int chemistryMarks = Convert.ToInt32(Console.ReadLine());

bool isEligible = Eligible(mathMarks, physicsMarks, chemistryMarks);

Console.WriteLine($"Is the student eligible for admission? {isEligible}");

}

static bool Eligible(int mathMarks, int physicsMarks, int chemistryMarks)

{

int totalMarks = mathMarks + physicsMarks + chemistryMarks;

if (mathMarks >= 65 && physicsMarks >= 55 && chemistryMarks >= 50 && totalMarks >= 180)

{

return true;

}

else if (mathMarks >= 65 && totalMarks >= 140)

{

return true;

}

return false;

}

}

**Program4**

using System;

public class Fibanocci

{

public static void Main(string[] args)

{

int n1 = 0, n2 = 1, n3, n;

Console.WriteLine("Enter a number");

n = Convert.ToInt32(Console.ReadLine());

Console.Write(n1 + " " + n2);

for(int i = 2; i < n; i++)

{

n3 = n1 + n2;

Console.Write(n3+" ");

n1 = n2;

n2 = n3;

}

}

}

**Program 5**

using System;

using System.Collections.Generic;

class Program

{

static void Main()

{

Stack<int> stack = new Stack<int>();

stack.Push(2);

stack.Push(4);

stack.Push(5);

stack.Push(6);

Console.WriteLine("Original Stack:");

PrintStack(stack);

Console.WriteLine(“Enter an element to remove”);

int Remove = Convert.ToInt32(Console.ReadLine());

RemoveElement(stack, Remove);

Console.WriteLine("Stack after removing element " +Remove);

PrintStack(stack);

}

static void RemoveElement(Stack<int> stack, int element)

{

Stack<int> tempStack = new Stack<int>();

while (stack.Count > 0)

{

int currentElement = stack.Pop();

if (currentElement != element)

{

tempStack.Push(currentElement);

}

}

while (tempStack.Count > 0)

{

stack.Push(tempStack.Pop());

}

}

static void PrintStack(Stack<int> stack)

{

foreach (int element in stack)

{

Console.WriteLine(element);

}

}

}

**Program 6**

using System;

class Vehicle

{

public string Brand;

public string Color;

public decimal Price;

public int YearOfManufacturing;

public Vehicle(string brand, string color, decimal price, int yearOfManufacturing)

{

Brand = brand;

Color = color;

Price = price;

YearOfManufacturing = yearOfManufacturing;

}

public void Details()

{

Console.WriteLine("Vehicle Details:");

Console.WriteLine("Brand: " + Brand);

Console.WriteLine("Color: " + Color);

Console.WriteLine("Price: " + Price);

Console.WriteLine("Year of Manufacturing: " + YearOfManufacturing);

}

}

class Program

{

static void Main()

{

Vehicle vehicle1 = new Vehicle("BMW", "Blue", 2500000, 2013);

Vehicle vehicle2 = new Vehicle("Honda", "Blue", 300000, 2020);

vehicle1.Details();

vehicle2.Details();

}

}

**Program 7**

using System;

class Person

{

public string Name;

public string Address;

public string Phone;

public Person(string name, string address, string phone)

{

Name = name;

Address = address;

Phone = phone;

}

public void Details()

{

Console.WriteLine("Name: " + Name);

Console.WriteLine("Address: " + Address);

Console.WriteLine("Phone: " + Phone);

}

}

class Student : Person

{

public int RollNumber;

public string Course;

public double Marks;

public string CollegeAddress;

public Student(string name, string address, string phone, int rollNumber, string course, double marks, string collegeAddress)

: base(name, address, phone)

{

RollNumber = rollNumber;

Course = course;

Marks = marks;

CollegeAddress = collegeAddress;

}

public void Details()

{

base.Details();

Console.WriteLine("Student Details:");

Console.WriteLine("Roll Number: " + RollNumber);

Console.WriteLine("Course: " + Course);

Console.WriteLine("Marks: " + Marks);

Console.WriteLine("College Address: " + CollegeAddress);

}

}

class Program

{

static void Main()

{

Person person = new Person("Sowmya ", "9876543219", "bangalore");

Student student = new Student("Sowmya", "bangalore", "983754627", 1, "Computer Science", 95.7, "bangalore");

person.Details();

Console.WriteLine();

student.Details();

}

}