| **Q-1** | **write a program to check whether the given character is vowel or consonant.** |
| --- | --- |
| **Code** | using System;  namespace ctest2  {  class Program  {  static void Main(string[] args)  {  String a;  Console.WriteLine("Enter a character:");  a = Console.ReadLine();  if (a == "a" || a == "e" || a == "i" || a == "o" || a == "u")  {  Console.WriteLine("Entered character is vowel");  }  else if (a == "A" || a == "E" || a == "I" || a == "O" || a == "U")  {  Console.WriteLine("Entered character is vowel");  }  else  {  Console.WriteLine("Entered character is Consonent");  }  }  }  } |
| **Output** |  |
|  |  |
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| **Q-2** | **write a program to input cost price and selling price of product and check profit or loss with price** |
| **Code** | using System;  namespace ctest2  {  class Program  {  static void Main(string[] args)  {  int cp, sp;  Console.WriteLine("Enter cost price:");  cp = Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter selling price:");  sp = Convert.ToInt32(Console.ReadLine());  if (sp > cp)  {  int profit = sp - cp;  Console.WriteLine(" profit is :" + profit);  }  else if (cp > sp)  {  int loss = cp - sp;  Console.WriteLine(" Loss is :" + loss);  }  else  {  Console.WriteLine("no profit or no loss ");  }  }  }  } |
| **Output** |  |
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| **Q-3** | **write a program which accept , marital status, gender and age of the driver and find driver is insured or not.** |
| **Code** | using System;  namespace ctest2  {  class Program  {  static void Main(string[] args)  {  String gender;  int age;  Boolean marstatus;  Console.WriteLine("Enter martial status:");  marstatus = Convert.ToBoolean(Console.ReadLine());  Console.WriteLine("Enter gender:");  gender = Console.ReadLine();  Console.WriteLine("Enter age:");  age = Convert.ToInt32(Console.ReadLine());  if (marstatus == true)  {  Console.WriteLine("the driver is insured");  }  else if (marstatus == false && gender == "female" && age >= 25)  {  Console.WriteLine("the driver is insured");  }  else if (marstatus == false && gender == "male" && age >= 30)  {  Console.WriteLine("the driver is insured");  }  else  {  Console.WriteLine("the driver is not insured");  }  }  }  } |
| **Output** |  |
| **Q-4** | **write a program which accepts price and quantity from the user and based on the total bill give the following discount and calculate net amount.** |
| **Code** | using System;  namespace ctest2  {  class Program  {  static void Main(string[] args)  {  double price;  int quantity;  double net\_amount;  Console.WriteLine("Enter price of product:");  price = Convert.ToDouble(Console.ReadLine());  Console.WriteLine("Enter quantity of product:");  quantity = Convert.ToInt32(Console.ReadLine());  double amount = price \* quantity;  if (amount < 1000)  {  Console.WriteLine("No discount");  }  else if (amount > 1000 && amount < 2000)  {  net\_amount = amount \* 5 / 100;  Console.WriteLine("net amount is:" + net\_amount);  }  else if (amount > 2001 && amount < 3000)  {  net\_amount = amount \* 10 / 100;  Console.WriteLine("net amount is:" + net\_amount);  }  else if (amount > 3001 && amount < 5000)  {  net\_amount = amount \* 15 / 100;  Console.WriteLine("net amount is:" + net\_amount);  }  else  {  net\_amount = amount \* 25 / 100;  Console.WriteLine("net amount is:" + net\_amount);  }  }  }  } |
| **Output** |  |
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| **Q-5** | **PROGRAM TO CONVERT DEGREE CS. INTO KELVIN, FAHRENHEIT** |
| **Code** | using System;  namespace c1  {  class Program  {  static void Main(string[] args)  {  double n1;  Console.WriteLine("Enter number:");  n1 = Convert.ToDouble(Console.ReadLine());  Console.WriteLine("kelvin is:{0}", n1 + 273.51);  Console.WriteLine("ferenhit is :{0}", (n1 \* 9 / 5) + 32);  }  }  } |
| **Output** |  |
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| **Q-6** | **To convert millimeter into cm and meter to kilometer** |
| **Code** | using System;  namespace c1  {  class Program  {  static void Main(string[] args)  {  double n1;  Console.WriteLine("Enter number:");  n1 = Convert.ToDouble(Console.ReadLine());  Console.WriteLine("centimeter is:{0}", n1 / 10);  Console.WriteLine("meter to km is :{0}", n1 / 1000);  }  }  } |
| **Output** |  |
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| **Q-7** | **create fibonacci series and get value from the user** |
| **Code** | using System;  namespace c1  {  class Program  {  static void Main(string[] args)  {  int n1 = 0, n2 = 1, n3, i, number;  Console.Write("Enter the number of elements: ");  number = Convert.ToInt32(Console.ReadLine());  Console.Write(n1 + " " + n2 + " ");  for (i = 2; i < number; ++i)  {  n3 = n1 + n2;  Console.Write(n3 + " ");  n1 = n2;  n2 = n3;  }  }  }  } |
| **Output** |  |
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| **Q-8** | **print the table** |
| **Code** | using System;  namespace c1  {  class Program  {  static void Main(string[] args)  {  int table = 2;  for (int i = 1; i <= 10; i++)  {  Console.WriteLine(table + " \* " + (i) + " = " + (table \* (i)));  }  Console.WriteLine("----------");  }  }  } |
| **Output** |  |
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| **Q-9** | **To find area of rectangle** |
| **Code** | using System;  namespace c1  {  class Program  {  static void Main(string[] args)  {  int l, w, r;  Console.WriteLine("Enter the length:");  l = Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter the width:");  w = Convert.ToInt32(Console.ReadLine());  r = l \* w;  Console.WriteLine("area of rectangle is :" + r);  }  }  } |
| **Output** |  |
|  |  |
| **Q-10** | **for second hours, minutes** |
| **Code** | using System;  namespace c1  {  class Program  {  static void Main(string[] args)  {  double s;  double m, h;  Console.WriteLine("Enter the second:");  s = Convert.ToDouble(Console.ReadLine());  m = s / 60;  h = m / 60;  Console.WriteLine("hours is :" + h);  Console.WriteLine("minutes is :" + m);  }  }  } |
| **Output** |  |
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| **Q-11** | **for three sub mark and total of it and average** |
| **Code** | using System;  namespace c1  {  class Program  {  static void Main(string[] args)  {  int s1, s2, s3, sum;  double avg;  Console.WriteLine("Enter the subject 1 mark:");  s1 = Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter the subject 2 mark:");  s2 = Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter the subject 3 mark:");  s3 = Convert.ToInt32(Console.ReadLine());  avg = (s1 + s2 + s3) / 3;  sum = s1 + s2 + s3;  Console.WriteLine("sum is :" + sum);  Console.WriteLine("average is :" + avg);  }  }  } |
| **Output** |  |
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| **Q-12** | **Simple interest** |
| **Code** | using System;  namespace c1  {  class Program  {  static void Main(string[] args)  {  int p, r, n;  double i;  Console.WriteLine("Enter the p:");  p = Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter the r:");  r = Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter the n:");  n = Convert.ToInt32(Console.ReadLine());  i = (p \* r \* n) / 100;  Console.WriteLine("interest is :" + i);  }  }  } |
| **Output** |  |
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| **Q-13** | **CRUD Demo** |
| **Code** | using System;  using System.Collections.Generic;  namespace CRUD\_Console  {  class Employee  {  private static int count;  private int Eid;  private string Ename;  private int B\_sal;  private int G\_sal;  public Employee()  {  Eid = ++count;  }  public int Empid  {  get { return Eid; }  }  public string Empname  {  set { Ename = value; }  get { return Ename; }  }  public int Basic\_Salary  {  set { B\_sal = value; }  get { return B\_sal; }  }  public int Gross\_Salary  {  get { return G\_sal; }  }  public void calculate\_gross\_salary()  {  float da = 0.0f, hra = 0.0f;  if (B\_sal > 15000)  {  da = B\_sal \* 20.0f;  hra = B\_sal \* 15.0f;  }  else if (B\_sal > 10000)  {  da = B\_sal \* 10.0f;  hra = B\_sal \* 5.0f;  }  G\_sal = Convert.ToInt32(B\_sal + da + hra);  }  public void display()  {  Console.WriteLine(Eid);  Console.WriteLine(Ename);  Console.WriteLine(B\_sal);  Console.WriteLine(G\_sal);  }  }  class Program  {  static void Main(string[] args)  {  List<Employee> employees = new List<Employee>();  Employee e = null;  int ch;  do  {  Console.WriteLine("1. Insert Data");  Console.WriteLine("2. Dispaly Data");  Console.WriteLine("3. Search By ID");  Console.WriteLine("0. Exit Application");  Console.WriteLine("Enter Your Choice : ");  ch = Convert.ToInt32(Console.ReadLine());  switch (ch)  {  case 1:  e = new Employee();  Console.WriteLine("Enter Name : ");  e.Empname = Console.ReadLine();  Console.WriteLine("Enter Basic Salaey : ");  e.Basic\_Salary = Convert.ToInt32(Console.ReadLine());  e.calculate\_gross\_salary();  employees.Add(e);  break;  case 2:  for (int i = 0; i < employees.Count; i++)  {  employees[i].display();  }  break;  case 3:  Console.WriteLine("Enter Id : ");  int id = Convert.ToInt32(Console.ReadLine());  for (int i = 0; i < employees.Count; i++)  {  if (employees[i].Empid == id)  {  employees[i].display();  }  }  break;  }  } while (ch != 0);  }  }  } |
| **Output** |  |
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| **Q-14** | **MultiDimensional Array** |
| **Code** | using System;  class Program  {  static void Main()  {  int i, j;  int n = 3;  int[,] ary = new int[n, n];  Console.WriteLine("\nEnter Array Elements : ");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  Console.Write("ary[" + i + "][" + j + "] : ");  ary[i, j] = Convert.ToInt32(Console.ReadLine());  }  }  int[,] arr = new int[n, n];  Console.WriteLine("\nEnter 2nd Array Elements : ");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  Console.Write("arr[" + i + "][" + j + "] : ");  arr[i, j] = Convert.ToInt32(Console.ReadLine());  }  }  Console.WriteLine("\nOtiginal Matrix 1\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  Console.Write(ary[i, j] + " ");  }  Console.WriteLine();  }  Console.WriteLine("\nOtiginal Matrix 2\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  Console.Write(ary[i, j] + " ");  }  Console.WriteLine();  }  Console.WriteLine("\nMatrix Addition : (ary + arr)\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  Console.Write(ary[i, j] + arr[i, j] + " ");  }  Console.WriteLine();  }  Console.WriteLine("\nMatrix Substraction : (ary - arr)\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  Console.Write(ary[i, j] - arr[i, j] + " ");  }  Console.WriteLine();  }  Console.WriteLine("\nMatrix Multiplication: (ary \* arr)\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  Console.Write(ary[i, j] \* arr[i, j] + " ");  }  Console.WriteLine();  }  Console.WriteLine("\nMatrix Division: (ary / arr)\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  Console.Write(ary[i, j] / arr[i, j] + " ");  }  Console.WriteLine();  }  Console.WriteLine("\nMatrix 1st Transposed\n\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  Console.Write(ary[j, i] + " ");  }  Console.WriteLine();  }  Console.WriteLine("\nMatrix 2nd Transposed\n\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  Console.Write(arr[j, i] + " ");  }  Console.WriteLine();  }  Console.WriteLine("\nMatrix Diagonal\n\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  if (j == i)  {  Console.Write(ary[i, j] + " ");  }  else  {  Console.Write("0 ");  }  }  Console.WriteLine();  }  Console.WriteLine("\nMatrix Upper Triangle\n\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  if (j < i)  {  Console.Write("0 ");  }  else  {  Console.Write(ary[i, j] + " ");  }  }  Console.WriteLine();  }  Console.WriteLine("\nMatrix Lower Triangle\n\n");  for (i = 0; i < n; i++)  {  for (j = 0; j < n; j++)  {  if (j > i)  {  Console.Write("0 ");  }  else  {  Console.Write(ary[i, j] + " ");  }  }  Console.WriteLine();  }  }  } |
| **Output** |  |
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| **Q-15** | **Delegate** |
| **Code** | using System;  namespace Delegate  {  public delegate void MyDelegate(int x, int y);  public class myClass  {  public void add(int x, int y)  {  Console.WriteLine("\nAddition : " + (x + y));  }  public void sub(int x, int y)  {  Console.WriteLine("\nSubstraction : " + (x - y));  }  }  class Program  {  static void Main(string[] args)  {  myClass c1 = new myClass();  MyDelegate del = new MyDelegate(c1.add);  del += new MyDelegate(c1.sub);  del(20, 10);  }  }  } |
| **Output** |  |
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| **Q-16** | **Delegate-2** |
| **Code** | using System;  namespace Delegate  {  public delegate void calc(int a);  class calculate  {  public void areaOfSquare(int s)  {  Console.WriteLine("\nArea of square = " + (s \* s));  }  public void areaOfCircle(int r)  {  Console.WriteLine("\nArea of circle = " + (3.14 \* (r \* r)));  }  }  class Program  {  static void Main(string[] args)  {  calculate calc1 = new calculate();  calc c1 = new calc(calc1.areaOfSquare);  c1 += new calc(calc1.areaOfCircle);  c1(10);  }  }  } |
| **Output** |  |
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| **Q-17** | **Delegate 3** |
| **Code** | using System;  namespace Delegate  {  public delegate void myDelegate(string x);  class emp  {  string name;  public void getData(string nm)  {  name = nm;  }  public void dispData()  {  Console.WriteLine("\nEmployee Name : " + name);  }  }  class Program  {  static void Main(string[] args)  {  emp s1 = new emp();  myDelegate md = new myDelegate(s1.getData);  md("jigo");  s1.dispData();  }  }  } |
| **Code** |  |
|  |  |
|  |  |
| **Q-18** |  |
| **Code** | using System;  class Person  {  protected static int age;  public void setAge()  {  age = 20;  }  }  class Student : Person  {  public void GoToClasses()  {  Console.WriteLine("I Am Going To Class");  }  public void showAge()  {  base.setAge();  Console.WriteLine("My Age Is " + age);  }  }  class Teacher : Person  {  string Subject;  public void Explain()  {  Subject = "JAVA";  Console.WriteLine("Explaination Begins For " + Subject);  }  }  class main  {  public static void Main(string[] args)  {  Student s1 = new Student();  s1.GoToClasses();  s1.showAge();  Teacher t1 = new Teacher();  t1.Explain();  }  } |
| **Output** |  |
|  |  |
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| **Q-19** |  |
| **Code** | using System;  class PhotoAlbum  {  protected static int numberOfPages;  public PhotoAlbum()  {  numberOfPages = 16;  }  public PhotoAlbum(int n)  {  numberOfPages = n;  }  public int getNumberOfPages()  {  return numberOfPages;  }  }  class BigPhotoAlbum : PhotoAlbum  {  public BigPhotoAlbum()  {  numberOfPages = 64;  }  }  class AlbumTest : BigPhotoAlbum  {  public AlbumTest()  {  numberOfPages = 24;  }  }  class main  {  static void Main()  {  PhotoAlbum p1 = new PhotoAlbum();  Console.WriteLine("PhotoAlbum (Number of Pages) : " + p1.getNumberOfPages());  BigPhotoAlbum b1 = new BigPhotoAlbum();  Console.WriteLine("BigPhotoAlbum (Number of Pages) : " + b1.getNumberOfPages());  AlbumTest t1 = new AlbumTest();  Console.WriteLine("AlbumTest (Number of Pages) : " + t1.getNumberOfPages());  }  } |
| **Output** |  |
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| **Q-20** |  |
| **Code** | using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  namespace Shapes  {  class Square  {  private int x;  private int y;  private int length;  public Square(int x, int y, int length)  {  this.x = x;  this.y = y;  this.length = length;  }  public void Move(int x, int y)  {  this.x = x;  this.y = y;  }  public void Scale(int scaleFactor)  {  this.length \*= scaleFactor;  }  public override string ToString()  {  return string.Format("Corner ({0},{1}), side {2}", this.x, this.y, this.length);  }  public double GetPerimeter()  {  return 4 \* this.length;  }  public double GetArea()  {  return this.length \* this.length;  }  }  class Program  {  static void Main(string[] args)  {  Square square = new Square(5, 5, 10);  Console.WriteLine(square.ToString());  Console.WriteLine("\nMove(15, 20)");  square.Move(15, 20);  Console.WriteLine(square.ToString());  Console.WriteLine("\nScale(3)");  square.Scale(3);  Console.WriteLine(square.ToString());  Console.WriteLine("\nThe perimeter = {0}", square.GetPerimeter());  Console.WriteLine("\nThe area = {0}", square.GetArea());  Console.ReadLine();  }  }  } |
| **Output** |  |
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|  |  |
| **Q-21** | Array :Collection of same data type values    Memory Allocation : Contiguous    Types :  - Single Dimensional  - Multi Dimensional  - Jagged Array    Single Dimensional  - Declare : int ary[] = new int[n];    Code:    using System;    class Program {    static void Main() {    string[] books = new string[4];    books[0] = "C#";  books[1] = "C Language";  books[2] = "Java";  books[3] = "PHP";    for(int i = 0;i < books.Length;i++)  {  Console.WriteLine("Books[" + i +"] = " + books[i]);  }    }  }    Multi Dimensional  - Declare : int ary[,] = new int[n][n];  - or int ary[,,] = new int[n][n][n];    Code:    using System;    class Program {    static void Main() {    const int n = 3;    int[,] ary = new int[n,n];    ary[0,0] = 5;  ary[0,1] = 10;  ary[0,2] = 15;  ary[1,0] = 20;  ary[1,1] = 25;  ary[1,2] = 30;  ary[2,0] = 40;  ary[2,1] = 45;  ary[2,2] = 50;    for(int i = 0; i < n ; i++)  {  for(int j = 0; j < n ; j++)  {  Console.WriteLine("ary[" + i + "][" + j + "] = " + ary[i,j]);  }  }      }  }        Jagged Array  - Array of Arrays  - Declare : string[][] ary = new string[n][];    Code:    using System;    class Program {    static void Main() {    const int n = 3;    string[][] ary = new string[n][];    ary[0] = new string[3] {"AB","BC","CD"};    ary[1] = new string[4] {"DE","EF","FG","XY"};    ary[2] = new string[5] {"GH","HI","IJ","XY","YZ"};    for(int i = 0; i < ary.Length; i++)  {  for(int j = 0; j < ary[i].Length; j++)  {  Console.Write(ary[i][j] + " ");  }  Console.WriteLine();  }  }  }    Programs :    Q1) Write a program in C# to to store elements in data    Test : Input 10 Elements    Expected Output : Elements[0] = 1;    Code :    using System;    class Program {    static void Main() {    const int n = 10;    int[] ary = new int[n];    Console.WriteLine("Enter Elements for ary[" + n + "]\n");    for(int i = 0; i < ary.Length; i++)  {  Console.Write("Enter Element ary[" + i + "] = ");  ary[i] = Convert.ToInt32(Console.ReadLine());  }    Console.WriteLine("\nElements of ary[" + n + "]\n");    for(int i = 0; i < ary.Length; i++)  {  Console.WriteLine("ary[" + i + "] = " + ary[i] );  }  }  }    Q2) Write a C# Program to find sum of all elements of array    Test : Input 3 Elements    Expected Output : Sum of elements of array is 15;      Code:    using System;    class Program {    static void Main() {    const int n = 3;    int[] ary = new int[n];    Console.WriteLine("Enter Elements for ary[" + n + "]\n");    for(int i = 0; i < ary.Length; i++)  {  Console.Write("Enter Element ary[" + i + "] = ");  ary[i] = Convert.ToInt32(Console.ReadLine());  }    int sum = 0;    for(int i = 0; i < ary.Length; i++)  {  sum += ary[i];  }    Console.WriteLine("\nSum of array Elements is " + sum);  }  } |
|  |  |
|  |  |
| **Q** |  |