Registration Form

Mr.Thomas is developing a registration form using C#.

Customers will give his details. Get the details and display the same as registration details.

Sample Input 1:

Enter your name : Leone

Enter your age : 30

Enter your country : France

Sample Output 1:

Welcome Leone. Your age is 30 and you are from France

Find Square and Cube

Write a C# Program to compute the square and Cube for a given number.

Create the following methods.

- Create a method **FindSquare** that returns the square of the given number.

FindSquare method should accept a single parameter of type double and return a double value

- Create a method **FindCube** that returns the cube of the given number.

FindCube method should accept a single parameter of type double and return a double value

From the main method prompt the user to enter a number and display the square and cube of the number.

The method signature should be as below

static < return type> <FunctionName> (<data type> parameter)

Sample Input

Enter a Number

4

Sample Output

Square of 4 is 16

Cube of 4 is 64

BooleanResult

Write a C# program to compare two numbers and print which number is lesser than the other.

Declare two variables an int x and int y. Obtain the value from the user for x and y. Write a program which tests whether *x is less than y*, storing the boolean result of this te
result. Print your findings, out to the console as given the sample output.

Sample Input:
Enter the value for x
5
Enter the value for y
7

Sample Output:
The result of whether *x is less than y is true*

MaxValueofSignedByte

Leo has just started to learn about data types. His first assignment is to find out the largest value that can be stored in a signed byte.

Write a program to declare a variable named 'number' of type signed byte, initialize it to 125 and display it.

Change the value of number to the maximum value of a signed byte and display it as shown in the sample output.

Sample output

Value of number: 125

Largest value stored in a signed byte : //print the answer.

Generate Bill Details

Django multiplex is developing application for its cafeteria. The application should be able to calculate the bill details for the following scenario. You bought pizzas, puffs and following prices :

Rs.200/pizza
Rs.40/puffs
Rs.120/pepsi

Generate a bill.

The bill details must include the total cost of pizzas, total cost of puffs and total cost of pepsis. Calculate the grand total and display.

Display the GST and CESS amount. GST is 12% and CESS is 5% of the total price.

Sample Input 1:

Enter the number of pizzas bought : 5
Enter the number of puffs bought : 6
Enter the number of pepsi bought : 2

Sample Output 1:

Bill Details

Cost of Pizzas :1000
Cost of Puffs :240
Cost of Pepsis :240
GST 12% : 177.6
CESS 5% : 74
Total Price :1480

StringConcatenate

Write a program which asks the user for their first name and last name to enter separately .

Concatenate these strings, with a space in-between them, putting the resulting concatenation into a single string variable named fullName and output the concatenated string to the console.

SAMPLE INPUT / OUTPUT :

Enter first name
Alice
Enter last name
Maria

Full name : Alice Maria

Quiz Competition Report

IQA, an International Quizzing Association conducted a quiz competition where several teams participated.

The competition consists of multiple rounds and each round carries a maximum point of 500 and minimum of 0.

IQA wants to take a report on the number of rounds participated by each team and their scores in each round.

The report should contain number of times each team participated and their scores in each attempt. Finally, it should display all the teams with their scores and its total.

How can you help them to generate the report using jagged arrays in C#. (Hint: The number of attempts taken by each team varies.)

From the Main method get input from the user and call the below method to return the results and display the result.

public static String GetTotalScore(int[][] array) //Method should accept a jagged array and return the result as given in the sample output.

Sample Input:

Enter the number of teams:

2

No.of attempts for team 1:

2

No.of attempts for team 2:

3

Enter the score for team 1:

100

120

Enter the score for team 2:

200

150

150

Sample Output:

Team 1 Total Score is 220 . Team 2 Total Score is 500

Reverse a Sentence

Jona and Helen are playing a game.When one person says a sentence in English , the other person should repeat the sentence in the reverse order. One who does it perfectly gets a score.

Write a C# program to help them found whether the sentence is reversed perfectly.

Get the input string from the user and display the phrase in reverse order.

Sample input 1

Enter a string

Here We Go Round the Mulberry Bush

Sample output 1

Bush Mulberry the Round Go We Here

Sample input 2

Enter a string

JACK and JILL went up the HILL

Sample output 2

HILL the up went JILL and JACK

AccountDetails

Create a public class Account with the following members:

- private attributes

  int id;

  String accountType;

  double balance;

- Add public properties for the all above three fields.

Constructors

- Create an empty parameter constructor.
- Also create a 3- parameter constructor to set the values for the given properties.

Methods

- Create a method WithDraw which should take amount as input and return a boolean .
- public bool Withdraw (double amount) --

    This method should deduct the amount from the balance and return true. Before deducting the amount from the balance ensure there is enough balance. If there is no enough balance return false.

- Add a method GetDetails that returns the details exactly as given in the sample output.

    public String GetDetails()
- Create a public class Program for the Main method .

a) From the Main method create object for Account and call the GetDetails method and display the details.
b) In the Main method, enter the amount to be withdrawn from user and call WithDraw method by passing this amount. If WithDraw method returns 'true' then display new balance(i.e after deduction)

Note:

Don't create any new namespace.

Create classes with pubic access specifier

Sample Input 1:

Enter account id
111

Enter account type
savings
Enter account balance
5000
Enter amount to withdraw
3000

Sample Output 2:
Account Id: 111
Account Type: savings
Balance: 5000
New Balance : 2000

Sample Input 2:
Enter account id

123
Enter account type
current
Enter account balance
3567
Enter amount to withdraw
4000

Sample Output:
Account Id: 123
Account Type: current
Balance: 3567

OpenableInterface

During the birthday party of Brian, The children were asked to pick a folded sheet of paper with handwritten fortunes inside. If the paper is marked with a letter T, a toy treasure box is gifted, and if it contains a letter P, a toy parachute is gifted to the children.

Simulate the scenario using C# classes and interface.

Create an interface named IOpenable. It should contain a single method named OpenSesame with the following signature.

Interface IOpenable

Member type	Identifier Name	Description
Method	String OpenSesame()	The method contains zero parameter list and returns a string

Create classes named TreasureBox, and Parachute that implements IOpenable.

class TreasureBox // should implement IOpenable

Member type	Identifier Name	Description
Method	String OpenSesame()	method should return a string "Congratulations , Here is your lucky win". (return the string exactly as specified .)

class Parachute // should implement IOpenable

Member type	Identifier Name	Description
Method	String OpenSesame()	method should return a string "Have a thrilling experience flying in air" (return the string exactly as specified .)

class Program // class for the Main method

Member type	Identifier Name	Description
Method	Main	Create instances for Parachute and TreasureBox and call the OpenSesame method to display the fortunes.

Write a program that declares an object for each of the implementing classes and calls its OpenSesame() method . Display the String to the console.

Note:

Don't create any new namespace.

Create classes with public access specifier.

The Main method should be defined in public class Program.

Declare the interface as public

Sample Input

Enter the letter found in the paper

T

Sample Output:

Congratulations, Here is your lucky win

Sample Input

Enter the letter found in the paper

P

Sample Output:

Have a thrilling experience flying in air

GameInheritance

Reena has to teach a lesson on various sports and games that are played around the world , to her grade 4 students..

To make the class interactive, she decided to call each student and ask them the name of a game they knew ,number of players needed to play the game and about games that are played with a time limit.

Help her by writing a C# Program that prompts the user for the said details and display them on the console.

Create the classes , along with the specified members as mentioned below.

1. class Game // parent class that describes the games properties

Include **Auto-implemented properties** for the game's name and maximum number of players.

Property Name	Description
public string Name	property to store the name of the game.
public int MaxNumPlayers	Maximum number of players included for the game

Method Name	Description
ToString()	Should overrides the Object class's ToString() method and returns a string that contains the nameof the Game, and the number of players as given in the sample output.

2. class GameWithTimeLimit // child class that should inherit class Game

Generate an auto-implemented integer property for Minutes to store the game's time limit in minutes.

Property Name	Description
Public int TimeLimit	store the game's time limit in minutes.

Method Name	Description
ToString()	Should overrides the Object class's ToString() method and returns a string . Should call the base parent class ToString and print the name and number of players . In addition this method should print the time limit for the game. (Refer the sample output.)

3. class Program

Create a class named Program with Main method to instantiate objects for the above mentioned classes and Display the output as given in the sample.

Note:

Do not create any new namespace.

Create classes with public access specifier.

The Main method should be defined in public class Program.

Sample Input:

Enter a game
Cricket
Enter the maximum number of players
11
Enter a game that has time limit
Football
Enter the maximum number of players
11
Enter the time limit in minutes
90

Sample Output:

Maximum number of players for Cricket is 11
Maximum number of players for Football is 11
Time Limit for Football is 90 minutes

Find the Age of a person

Write a C# program that gets a person's date of birth as input and calculates his/her age and display the age. The program should also check whether the person is an adult or child. Display the results as given in the sample output.

Create a class called Person.

1. Populate the Person class with the following private fields. :

- String firstName // stores the first name of the person
- String lastName //stores the last name of the person.
- DateTime dob // stores the date of birth of the person

2. Add **read-write** properties for the above three instance fields and store the information
3. Add **read-only** propertiy Adult that return the following computed information:

public String Adult // Check the age ,of the person , and if he is 18 or above return a string "Adult" and if he is below 18 return "Child".

4. Include a Method DisplayDetails

   public void DisplayDetails() // Displays the details of the person.

5. Include a method with the below signature that returns the age of the person.

public int GetAge(DateTime dob)

Create objects for person from a class called Program that contains the Main method and display the details from the DisplayDetails method.

Note:

Don't create new namespaces.

Create classes with pubic access specifier.

Follow the naming conventions strictly.

Sample input:

Enter first name

Alice

Enter last name

Moses

Enter date of birth in yyyy/mm/dd/ format

1998/12/23

Sample Output:

First Name: Alice

Last Name: Moses

Age: 19

Adult

Enter first name

Joe

Enter last name

Noel

Enter date of birth in yyyy/mm/dd/ format

2002/10/15

Sample Output:

First Name: Alice

Last Name: Moses

Age: 17

Child

CalculatorProgram

Create a class called Calculator which contains methods for arithmetic operations such as Addition, Subtraction ,Multiplication and Division. Division method should return the Quotient and Remainder(hint:use out parameter).

Follow the method signatures as given below:

public int Addition(int a, int b)

public int Subtraction(int a, int b)

public int Multiplication(int a, int b)

public double Division(int a, int b, out double remainder). //The method should return the Quotient and Remainder should be passed through the out parameter.

The methods should return the appropriate result.

Create a class Program with Main Method . Prompt for 2 operands and operator from the user, Call the appropriate method for operation and display the results.

Note:

Don't create any new namespace.

Create classes with pubic access specifier

Sample Input

Enter the operator

+

Enter the operands

12

10

Sample Output

Result of 12 + 10 is 22

Sample Input

Enter the operator

/

Enter the operands

11

2

Sample Output

Result of 11 / 2 is 5

Remainder =1

Sample Input

Enter the operator

&

Enter the operands

12

10

Sample Output

Invalid Operator

Extract Book Code - Hands -On

Universal Library wants to extract the book code for the arrangements and easy retrieval .

Write a program to implement this scenario to help them to extract.

Business Rules:

The book code should be length of 18 . else print " Invalid Book Code "

1 – The first 3 position is for Department Code .

2 – The next 4 position is for Publication Years

3 – The next 5 position is for Number of Pages.

4 – The next 6 position is for Book Id

The valid Department code is 101, 102, 103 else print " Invalid Department Code"

The valid Year of Publication is 1900 to 2020 else print " Invalid Year "

The valid Page Number is from 00001 to 99999 else print " Invalid Page Numbers"

The valid Book ID is character followed by numbers else print " Invalid Book ID"

Create a class Program and get the book code as input and implement the above functionalities

Sample Input 1 :

Enter the book code of length 18

1012020123 45J12345

Sample Output 1:

Department Code : 101

Year of Publication : 2020

Number of Pages : 12345

Book ID : J12345

Sample Input 2 :

Enter the book code of length 18

1022019456 78G54321

Sample Output 2:

Department Code : 102

Year of Publication : 2019

Number of Pages : 45678

Book ID : G54321

Sample Input 3 :

Enter the book code of length 18

102201945678G

Sample Output 3:

Invalid Book Code

Sample Input 4:

Enter the book code of length 18

1042019456 78G54321

Sample Output 4:

Invalid Department Code

Year of Publication : 2019

Number of Pages : 45678

Book ID : G54321