Overloading

Write a program to calculate the cost of the stall based on its type. If the stall type is Gold, the cost will be Rs.100 per square feet. If the stall type is Diamond, the cost will be Rs.150 per square feet and cost of a TV will be Rs.100. If the stall type is Platinum, the cost will be Rs.200 per square feet and if they are using projector it will cost Rs.1000.

[Note : Strictly adhere to the object-oriented specifications given as a part of the problem statement.
Follow the naming conventions as mentioned. Create separate classes in separate files.]
Consider the class named **Stall** and define the following methods.

Method	Description
public void ComputeCost(string _stallType, int _squareFeet)	This method is used to calculate the cost of the Gold stall on cost of Rs.100 per square feet
public void ComputeCost(string _stallType, int _squareFeet, int _numberOfTV)	This method is used to calculate the cost of the Diamond stall on cost of Rs.150 per square feet and cost per TV of Rs.100
public void ComputeCost(string _stallType, int _squareFeet, bool _projectorAvailability)	This method is used to calculate the cost of the Platinum stall on cost of Rs.200 per square feet and if they are using projector it costs Rs.1000

Consider the class **Program** and write a Main method to test the above class.
In **Main** method, get the stall type and its corresponding stall details from the user and calculate the cost.

The link to download the template code is given below
Code Template

Input and Output Format
Refer sample input and output for formatting specifications.
[All text in bold corresponds to the input and the rest corresponds to output.]

Sample Input and Output 1 :

Enter the stall type
Gold
Enter the square feet
100
Gold costs Rs.10000

Sample Input and Output 2 :

Enter the stall type
Diamond
Enter the square feet
200

Enter the number of TV
1
Diamond costs Rs.30100

Sample Input and Output 3 :

Enter the stall type
Platinum
Enter the square feet
150
Do you need a projector(yes/no)
yes
Platinum costs Rs.31000

Top of Form
Bottom of Form

```
using System;



class Stall
{
private string stallType;
private int squareFeet;
private int numberOfTV;
private bool projectorAvailability;
public void computeCost(string stallType, int squareFeet)
{
long total;
total = squareFeet * 100;
Console.WriteLine("Gold costs Rs." + total);
}
public void computeCost(string stallType, int squareFeet, int numberOfTV)
{
long total;
total = (squareFeet * 150 )+(numberOfTV*100);
Console.WriteLine("Diamond costs Rs."+total);
}
public void computeCost(string stallType, int squareFeet, bool projectorAvailability)
{
long total;
total = squareFeet * 200;
if (projectorAvailability == true)
{
long total1;
total1 = total + 1000;
Console.WriteLine("Platinum costs Rs." + total1);
}
else
{
Console.WriteLine("Platinum costs Rs." + total);
}
}
}
```

```
using System;
class Program
{
static void Main(string[] args)
{
Console.WriteLine("Enter the stall type");
string _stall = Console.ReadLine();
Console.WriteLine("Enter the square feet");
int _squarefeet = Convert.ToInt32(Console.ReadLine());
Stall s = new Stall();
if (_stall == "Gold")
{
s.computeCost(_stall, _squarefeet);
}
else if (_stall=="Diamond")
{
Console.WriteLine("Enter the number of TV");
int noofTV = Convert.ToInt32(Console.ReadLine());
s.computeCost(_stall, _squarefeet, noofTV);
}
else
{
Console.WriteLine("Do you need a projector(yes/no)");
string projector =Console.ReadLine();
if(projector.ToLower()=="yes")
s.computeCost(_stall, _squarefeet, true);
else
s.computeCost(_stall, _squarefeet, false);
}
Console.ReadLine();
}
}
```

F1P4 - SIMPLIFIED FRACTION

Simplified Fraction

St. William Convent organizes a project exhibition "Innovative Minds" every year with an objective to provide the platform and unleash the potential of the students by showcasing their innovative projects. Pasha is a smart, high school student and was eager to participate in the fair for the first time.

After a lot of ground work, she decided her project and set out to design the same. Her project requirement was to design an advanced calculator that has a fraction feature that will simplify fractions. The project will accept a non-negative integer as a numerator and a positive integer as a denominator and outputs the fraction in simplest form. That is, the fraction cannot be reduced any further, and the numerator will be less than the denominator.

Help Pasha to program her advanced calculator and succeed in her first ever project presentation. You can assume that all input numerators and denominators will produce valid fractions.

[Note : Strictly adhere to the object-oriented specifications given as a part of the problem statement.
Follow the naming conventions as mentioned. Create separate classes in separate files.]

Consider a class named **Program** and define the following method.

Method Name	Description
static void PrintValue(int num,int den)	This method should display the fraction in simplest form.

Write a main method to test the above class.

In the Main method, obtain input from the user in the console and call the PrintValue method present in the class and display the output.

The link to download the template code is given below
Code Template

Input Format:
First line of the input is a non-negative integer which is the numerator in the fraction.
Second line of the input is a positive integer which is the denominator in the fraction.

Output Format:
Output the simplified form of the fraction in a single line.
Refer sample input and output for formatting specifications.

[All text in bold corresponds to the input and the rest corresponds to output.]
Sample Input and Output 1:
28
7
4

Sample Input and Output 2:
13
5
2 3/5

Sample Input and Output 3:
55
10
5 1/2

Sample Input and Output 4:
0
7
0

Sample Input and Output 5:
1000
210
4 16/21

Sample Input and Output 6:
42
44
21/22

Top of Form
Bottom of Form

```
using System;
public class Program
{
   static void Main(string[] args)
   {
      int num, den;
      do
      {
         num = Convert.ToInt32(Console.ReadLine());
         den = Convert.ToInt32(Console.ReadLine());
      } while (num < 0 && den < 0 && num > den);
      printValue(num,den);
   }



   private static void printValue(int num,int den)
   {
      int q = num /den;
      int rem = num % den;
      if (rem != 0)
      {
         for (int i=2; i < num;i++)
         {
            if (rem % i == 0 && den % i == 0)
            {
               rem =rem /i;
               den = den/i;
               i = 1;
            }
         }
         if (q == 0)
            Console.WriteLine("{0}/{1}",rem,den);
         else
            Console.WriteLine("{0} {1}/{2}" ,q, rem, den);
      }
       else
         Console.WriteLine(q);
   }
}
```

RECTANGLE DIMENSION CHANGE

Rectangle Dimension Change

Write a C# program to illustrate the method returning an objects by getting details from user and display these details in a detailed view using the following classes and methods.

[Note : Strictly adhere to the object oriented specifications given as a part of the problem statement.
Follow the naming conventions as mentioned. Create separate classes in separate files.]

Consider the class **Rectangle** with the following private attributes/variables.

Data type	Attributes
int	_length
int	_width

Include appropriate **getters and setters**.
Include **default** and **parameterized** constructor for the class.
Prototype for the Parameterized Constructor **Rectangle(int _length, int _width)**
Define the following method in the **Rectangle** class.

Method Name	Description
int Area( )	This method computes the area of the rectangle and returns it.
void Display( )	This method displays the length and width of the rectangle. Include the statement '**Rectangle Dimension**' inside this method and also print the dimensions along with area of the rectangle.
Rectangle DimensionChange(int d)	This method changes the rectangle dimension by increasing the length and width of the rectangle by d times.

Create another class **Program** and write a Main method to test the above class.
In the Main() method, read the length and width details from the user and test the above methods.

The link to download the template code is given below
Code Template

Input and Output Format:
Refer sample input and output for formatting specifications.

[All text in bold corresponds to input and the rest corresponds to output.]

Sample Input and Output 1:
Enter the length of the rectangle
5
Enter the width of the rectangle
6
Rectangle Dimension
Length:5
Width:6
Area of the Rectangle:30
Enter the new dimension
2
Rectangle Dimension
Length:10

Width:12
Area of the Rectangle:120

Top of Form
Bottom of Form

```
using System;
public class Rectangle {
   private int _length;
public int Length
          {
get
{
 return this._length;
}
set
{
 this._length = value;
}
}
 private int _width;
public int width
{
get {
 return this._width;
}
set {
this._width = value;
}
}
public Rectangle() { }
public Rectangle(int _length,int _width)
{
this._length = _length;
this._width = _width;
}

          public int Area( )
{
          return (_length * _width);
          }

          public void Display() {
                    Console.WriteLine("Rectangle Dimension");
Console.WriteLine("Length:"+_length);
Console.WriteLine("Width:"+_width);
int a = Area();
   Console.WriteLine("Area of the Rectangle:" + a);

          }

          public Rectangle DimensionChange(int d) {
          return new Rectangle(_length * d, _width * d);
          }
```

```
}
using System;
class Program {
        public static void Main(string[] args)
{
                Console.WriteLine("Enter the length of the rectangle");
int len = Convert.ToInt32(Console.ReadLine());
                Console.WriteLine("Enter the width of the rectangle");
int wid = Convert.ToInt32(Console.ReadLine());
Rectangle rectangle = new Rectangle(len, wid);
rectangle.Display();
{

                Console.WriteLine("Enter the new dimension");
        int d = Convert.ToInt32(Console.ReadLine());
Rectangle rect = rectangle.DimensionChange(d);
rect.Display();
        }
}
}
```

COMPARE PHONE NUMBER

Compare Phone Number

New App helps you discover great places to eat around or de-stress in all major cities across 20000+ merchants. Explore restaurants, spa & salons, and activities to find your next fantastic deal. Write a program to find the duplication of user accounts.

Write a C# program to get two users details and display whether their phone numbers are same or not with the following class and methods.

[Note : Strictly adhere to the object-oriented specifications given as a part of the problem statement.
Follow the naming conventions as mentioned. Create separate classes in separate files.]

Consider the class **User** with the following private attributes/variables.

Data type	**Attributes**
string	_name
string	_username
string	_password
long	_phoneNumber

Include appropriate **getters and setters**.
Include **default** and **parameterized** constructor for the class.
Prototype for the Parameterized Constructor **User(string _name,string _username,string _password,long _phoneNumber)**
Define the following method in the **User** class.

Method Name	**Description**
public bool ComparePhoneNumber(User user)	In this method, compare the phone number of the two users and return true if both the numbers are equal else return false.

Create another class **Program** and write a Main method to test the above class.
In the main method

- Obtain the details of the user.
- Create an object for the User class using the parameterized constructor(name, username, password, phoneNumber).
- Call the method ComparePhoneNumber() in the Main class.

The link to download the template code is given below
Code Template

Input and Output Format

Refer sample input and output for formatting specifications.
If both phone numbers are the same then print "**Same Users**" else print "**Different Users**".
The output should be printed in the Main class.

[All text in bold corresponds to the input and the rest corresponds to output.]

Sample Input and Output 1:

Enter Name
john
Enter UserName
john@123
Enter Password
john@123
Enter PhoneNumber
9092314562
Enter Name
john
Enter UserName
john@12
Enter Password
john@12
Enter PhoneNumber
9092314562
Same Users

Sample Input and Output 2:

Enter Name
william
Enter UserName
william####
Enter Password
william
Enter PhoneNumber
9092314562
Enter Name
john
Enter UserName
john@123
Enter Password

john@123
Enter PhoneNumber
9092312102
Different Users

```
using System;
class User
{
        private string _name;
        private string _username;
        private string _password;
        private long _phoneNo;
public User(){ }
public User(string _name, string _username, string _password, long _phoneNo)
{
this._name = _name;
this._username = _username;
this._password = _password;
this._phoneNo = _phoneNo;
}

        public bool ComparePhoneNumber(User user)
        {
                if (this._phoneNo == user._phoneNo)
      return true;
      else
return false;
        }
}
using System;
public class Program
{
   public static void Main()
{
      Console.WriteLine("Enter Name");
      String Name = Console.ReadLine();
      Console.WriteLine("Enter UserName");
      String UserName = Console.ReadLine();
      Console.WriteLine("Enter Password");
      String Password = Console.ReadLine();
      Console.WriteLine("Enter PhoneNo");
                long PhoneNo = Convert.ToInt64(Console.ReadLine());
      User u1 = new User(Name, UserName, Password, PhoneNo);

      Console.WriteLine("Enter Name");
       Name = Console.ReadLine();
      Console.WriteLine("Enter UserName");
       UserName = Console.ReadLine();
      Console.WriteLine("Enter Password");
      Password = Console.ReadLine();
      Console.WriteLine("Enter PhoneNo");
```

```
        PhoneNo = Convert.ToInt64(Console.ReadLine());
       User u2 = new User(Name, UserName, Password,  PhoneNo);
       if (u1.ComparePhoneNumber(u2))
{
        Console.WriteLine("Same Users");

   }
else
{
Console.WriteLine("Different Users");

}
}
}
```

ITEMTYPE

ItemType

The International Film Festival of India (IFFI), founded in 1952, is one of the most significant film festivals in Asia. The festival is for a weel and arrangements have to be made for food, chairs, tables, etc. The organizing committee plans to deposit the advance amount to the contractors on confirmation of booking. Help them to store these details and print them in detailed view.

Write a C# program to get item type name, cost per day and deposit amount from user and display these details in a detailed view using the following classes and methods.

[Note : Strictly adhere to the object oriented specifications given as a part of the problem statement.
Follow the naming conventions as mentioned. Create separate classes in separate files.]

Consider a class named **ItemType**.
It must have the following private member variables/attributes.

Data type	Attributes
string	_name
double	_costPerDay
double	_deposit

Include appropriate **getters and setters.**

The **ItemType** class includes the following method.

Method name	Description
public void Display()	In this method, fill in the code to display the details of the ItemType in the format as shown in the sample output. Include the statement 'Item type details' inside this method.

Create another class **Program** and write a main method to test the above class.

In the Main() method, read the item type details from the user and create

an ItemType object with the given details and call the Display( ) method.

Please use the below conventions to create getters and setters of the class **ItemType**

```
 private string _name;
public string Name {
    get{
      return this._name;
   }
    set{
      this._name = value;
    }
}

 private double _costPerDay;
public double CostPerDay {
    get{
        return this._costPerDay;
   }
   set{
      this._costPerDay = value;
    }
}

 private double _deposit;
 public double Deposit {
   get {
      return this._deposit;
    }
   set{
      this._deposit = value;
   }
}
```

The link to download the template code is given below
Code Template

Input and Output Format:
Refer sample input and output for formatting specifications.
Note:
Cost per day and **Deposit value** should be **displayed up to 2 decimal places.**

[All text in bold correspondstoinput and the rest corresponds to the output.]

Sample Input and Output 1:

Enter the item type name
Catering
Enter the cost per day
25000.00
Enter the deposit

10000.50

Item type details
Name:Catering
CostPerDay:25000.00
Deposit:10000.50

```
using System;
public class Program
{
    public static void Main()
    {
        ItemType itemType = new ItemType();
        Console.WriteLine("Enter the item type name");
        itemType.Name = Console.ReadLine();
        Console.WriteLine("Enter the cost per day");
        itemType.CostPerDay = Convert.ToDouble(Console.ReadLine());
        Console.WriteLine("Enter the deposit");
        itemType.Deposit = Convert.ToDouble(Console.ReadLine());
        itemType.Display();
    }
    }
using System;
public class ItemType
{

    double _costPerDay;
    double _deposit;
    string _name;
 public double CostPerDay
    { get => _costPerDay; set => _costPerDay = value;
    }
    public string Name
    { get => _name; set => _name = value; }
    public double Deposit
    {
        get => _deposit; set => _deposit = value;
    }
    public void Display()
    {
        Console.WriteLine("Item type details");
        Console.WriteLine("Name:" + _name);

        Console.WriteLine("CostPerDay:{0:0.00}",_costPerDay);
        Console.WriteLine("Deposit:{0:0.00}",_deposit);

    }
}
```