RandomList 🡪

Inherit System type List<string> and add method to remove random element

CustomStack 🡪

Inherit System type Stack<string> and add method to check if stack is empty, and two methods for adding collection of elements

public int AddRange(params string[] arr)

public int AddRange(List<string> arr)

FiguresCalculator 🡪

Create interface IFigure with two methods to calculate area and perimeter

Create 3 classes and implement IFigure

public Circle(double radius)

{

//TODO

}

public Square(double side)

{

//TODO

}

public Triangle(double sideA, double sideB, double sideC)

{

//TODO

}

Use only these constructors.

In main method create collection of IFigure, insert a few figures, and then in foreach loop calculate every figure perimeter and area and print 🡪

foreach (var figure in figures)

{

Console.WriteLine(“Square/Circle/Triangle”);

Console.WriteLine("Perimeter: " + figure.CalculatePerimeter());

Console.WriteLine("Area: " + figure.CalculateArea());

Console.WriteLine("===================================");

}

Vehicles 🡪

Create 3 classes: Car, Truck and Motorcycle

Create 2 interfaces:

public interface IMoneyLost

{

double MoneyLost { get; }

}

public interface IVehicle : IMoneyLost

{

int Consumption { get; }

int LitersInTank { get; set; }

void Drive(int kilometers);

int Refuel(int liters);

bool CanMoveOn(int kilometers);

}

Implement IVehicle interface in all classes.

Add one additional property int TankCapacity(50 for Car, 100 for Truck, 15 for MotorCycle)

Create Custom Vehicle collection type that inherits List<IVehicle> and add method

public double GetAllMoneyLost()

{

//TODO

}

How to lost money:

Car: fuelPrice = 2, lostFuelPrice = 3;

Truck: fuelPrice = 1.5, lostFuelPrice = 2;

Motorcycle: fuelPrice = 1.8, lostFuelPrice = 2.2;

fuelPrice is price of every liter that is in the tank

lostFuelPrice is price of every liter that you try to fill in the tank, but it overflows

You lost money every time you create new vehicle and every time you call Refuel method, if tank overflows, you lost extra fuel

Then create a few vehicles and add them in your vehicle collection, after that in foreach loop drive every vehicle 120 km, then if it is a

* car refuel it with 10 liters
* truck refuel it with 15 liters
* motorcycle refuel it with 5 liters