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Scenario: 1

Arjun is planning to purchase a **laptop or desktop computer** from **TechWorld Computers**. The **total cost** of the selected system depends on the **processor type** chosen and the **optional accessories** added to the purchase.

To streamline the purchasing process, develop a **C# console-based application** that:

- Collects user input for:
  - System type (Laptop/Desktop)
  - Processor type
  - Additional accessories
- Computes the **final price** based on the selected configurations.
- Displays a **detailed purchase summary**, including:
  - Selected system
  - Processor type
  - Accessories chosen
  - Final payable amount

The application should follow proper **programming practices**, including modular design, input validation, and clear output formatting.

Help them to create an application using your C# coding skills.

Functionalities:

In class **Computer,** implement the below-given properties.

Data Type	Property Name
string	Processor
int	RamSize
int	HardDiskSize
int	GraphicCard

In class **Desktop,** implement the below-given properties and method and also inherit the class **Computer.**

Data Type	Property Name
int	MonitorSize
int	PowerSupplyVolt

Method	Description
public double DesktopPriceCalculation()	This method is used to calculate the price of the desktop and return it. To calculate the price of the desktop, the processor and other accessories prices are given below.

In class **Laptop,** implement the below-given properties and method and also inherit the class **Computer.**

Data Type	Property Name
int	DisplaySize
int	BatteryVolt

Method	Description
public double LaptopPriceCalculation()	This method is used to calculate the price of the laptop and return it. To calculate the price of the laptop, the processor and other accessories prices are given below.

Formula 1:

Desktop Price = Processor Cost + (RamSize * Ram Price) + (HardDiskSize * Hard Disk Price) + (GraphicCard * Graphic Card Price) + (MonitorSize * Monitor Price) + (PowerSupplyVolt * Power Supply Volt Price);

Processor	Processor Cost

i3	1500
i5	3000
i7	4500

Ram price (per GB)	Hard disk (per TB)	Graphic Card (per GB)	Power supply (per Volt)	Monitor (per inch)
200	1500	2500	20	250

Formula 2:

Laptop Price = Processor Cost + (RamSize * Ram Price) + (HardDiskSize * Hard Disk Price) + (GraphicCard * Graphic Card Price) + (Display Size* Display Price) + (BatteryVolt * Battery Volt Price);

Processor	Processor Cost
i3	2500
i5	5000
i7	6500

Ram price (per GB)	Hard disk (per TB)	Graphic Card (per GB)	Battery(per Volt)	Display(per inch)
200	1500	2500	20	250

Note:

Processor is **Case-sensitive**.

In **Program** class - **Main** method,

1. Get the values from the **user** as per the Sample Input.
2. Call the methods accordingly and display the result as per the Sample Output.

Note:

- Keep the properties, methods and classes as **public.**
- Please read the method rules **clearly**.
- Do not use **Environment.Exit()** to terminate the program.
- Do not change the given code template.

Summary :

Through creating this application, they have learned about **Inheritance** in C#.

Inheritance is a mechanism in object-oriented programming that allows a class to inherit properties and behaviors from a parent class, thus avoiding code duplication and promoting code reuse.

Sample Input 1:

1.Desktop

2.Laptop

Choose the option

1

Enter the processor

i3

Enter the ram size

8

Enter the hard disk size

32

Enter the graphic card size

32

Enter the monitor size

22

Enter the power supply volt

240

Sample Output 1:

Desktop price is 141400

Sample Input 2:

1.Desktop

2.Laptop

Choose the option

2

Enter the processor

i7

Enter the ram size

16

Enter the hard disk size

32

Enter the graphic card size

22

Enter the display size

13

Enter the battery volt

240

Sample Output 2:

Laptop price is 120750

```
using System;

public class Computer
{
    public string Processor { get; set; }
    public int RamSize { get; set; }
    public int HardDiskSize { get; set; }
    public int GraphicCard { get; set; }
}

public class Desktop : Computer
{
    public int MonitorSize { get; set; }
    public int PowerSupplyVolt { get; set; }

    public double DesktopPriceCalculation()
    {
        double processorCost = 0;

        if (Processor == "i3")
            processorCost = 1500;
        else if (Processor == "i5")
            processorCost = 3000;
        else if (Processor == "i7")
```

```
            processorCost = 4500;

        double price =
            processorCost +
            (RamSize * 200) +
            (HardDiskSize * 1500) +
            (GraphicCard * 2500) +
            (MonitorSize * 250) +
            (PowerSupplyVolt * 20);

        return price;
    }
}

public class Laptop : Computer
{
    public int DisplaySize { get; set; }
    public int BatteryVolt { get; set; }

    public double LaptopPriceCalculation()
    {
        double processorCost = 0;

        if (Processor == "i3")
```

```
            processorCost = 2500;
        else if (Processor == "i5")
            processorCost = 5000;
        else if (Processor == "i7")
            processorCost = 6500;

        double price =
            processorCost +
            (RamSize * 200) +
            (HardDiskSize * 1500) +
            (GraphicCard * 2500) +
            (DisplaySize * 250) +
            (BatteryVolt * 20);

        return price;
    }
}

public class Program
{
    public static void Main()
    {
        Console.WriteLine("1.Desktop");
        Console.WriteLine("2.Laptop");
```

```
Console.WriteLine("Choose the option");
int choice = Convert.ToInt32(Console.ReadLine());

if (choice == 1)
{
    Desktop desk = new Desktop();

    Console.WriteLine("Enter the processor");
    desk.Processor = Console.ReadLine();

    Console.WriteLine("Enter the ram size");
    desk.RamSize = Convert.ToInt32(Console.ReadLine());

    Console.WriteLine("Enter the hard disk size");
    desk.HardDiskSize = Convert.ToInt32(Console.ReadLine());

    Console.WriteLine("Enter the graphic card size");
    desk.GraphicCard = Convert.ToInt32(Console.ReadLine());

    Console.WriteLine("Enter the monitor size");
    desk.MonitorSize = Convert.ToInt32(Console.ReadLine());

    Console.WriteLine("Enter the power supply volt");
    desk.PowerSupplyVolt = Convert.ToInt32(Console.ReadLine());
```

```
    double result = desk.DesktopPriceCalculation();
    Console.WriteLine("Desktop price is " + result);
}
else if (choice == 2)
{
    Laptop lap = new Laptop();

    Console.WriteLine("Enter the processor");
    lap.Processor = Console.ReadLine();

    Console.WriteLine("Enter the ram size");
    lap.RamSize = Convert.ToInt32(Console.ReadLine());

    Console.WriteLine("Enter the hard disk size");
    lap.HardDiskSize = Convert.ToInt32(Console.ReadLine());

    Console.WriteLine("Enter the graphic card size");
    lap.GraphicCard = Convert.ToInt32(Console.ReadLine());

    Console.WriteLine("Enter the display size");
    lap.DisplaySize = Convert.ToInt32(Console.ReadLine());

    Console.WriteLine("Enter the battery volt");
```

```
            lap.BatteryVolt = Convert.ToInt32(Console.ReadLine());


            double result = lap.LaptopPriceCalculation();
            Console.WriteLine("Laptop price is " + result);
        }
    }
}
```