

```

1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6  using System.Globalization;
7  using MainData;
8  using AttributeData;

178 namespace AttributeData
179 {
180     [AttributeUsage(AttributeTargets.All, AllowMultiple = true)]
181     class MilkMoreInfo : System.Attribute
182     {
183         public string Manufacturer { get; set; }
184         public string CompanyName { get; set; }
185
186         public MilkMoreInfo(string Manufacturer = "", string CompanyName = "")
187         {
188             this.Manufacturer = Manufacturer;
189             this.CompanyName = CompanyName;
190         }
191     }
192 }

45 namespace MainData
46 {
47     interface InputOutput
48     {
49         void InputMilkInfo();
50         void OutputMilkInfo();
51     }
52
53     [MilkMoreInfo("Riot Games", "Garena Fried Chicken")]
54     class Milk : InputOutput
55     {
56         private string MilkName;
57         private string MilkID;
58         private DateTime ProductionDate;
59         private DateTime ExpiredDate;
60         private int Quantity;
61         public Milk(string MilkName = "Not assigned", string ProductionDate = "01/01/1900",
62             string ExpiredDate = "01/01/1900", int Quantity = 0)
63         {
64             this.MilkName = MilkName;
65             this.ProductionDate = DateTime.ParseExact(ProductionDate, "dd/MM/yyyy", CultureInfo.InvariantCulture);
66             this.MilkID = String.Format("MILK{0}", this.ProductionDate.ToString("ddMMyyyy"));
67             this.ExpiredDate = DateTime.ParseExact(ExpiredDate, "dd/MM/yyyy", CultureInfo.InvariantCulture);
68             this.Quantity = Quantity;
69         }
70
71         public string ValMilkName
72         {
73             get { return MilkName; }
74             set { MilkName = value; }
75         }
76         public string ValMilkID
77         {
78             get { return MilkID; }
79         }
80         public string ValProductionDate
81         {
82             get { return ProductionDate.ToString("dd/MM/yyyy"); }
83             set
84             {
85                 ProductionDate = DateTime.ParseExact(value, "dd/MM/yyyy", CultureInfo.InvariantCulture);
86                 MilkID = String.Format("MILK{0}", this.ProductionDate.ToString("ddMMyyyy"));
87             }
88         }
89         public string ValExpiredDate
90         {
91             get { return ExpiredDate.ToString("dd/MM/yyyy"); }
92             set { ExpiredDate = DateTime.ParseExact(value, "dd/MM/yyyy", CultureInfo.InvariantCulture); }
93         }
94         public int ValQuantity
95         {
96             get { return Quantity; }
97             set { Quantity = value; }
98         }
99     }

```

```

101 public void InputProductionDate()
102 {
103     Console.WriteLine("Input Production Date:");
104     try
105     {
106         ValProductionDate = Console.ReadLine();
107     }
108     catch (FormatException)
109     {
110         Console.WriteLine("Not a date! Please input again. (Example: 01/05/2021)");
111         InputProductionDate();
112     }
113 }
114 public void InputExpiredDate()...
127 public void InputQuantity()
128 {
129     Console.WriteLine("Input Quantity:");
130     try
131     {
132         ValQuantity = int.Parse(Console.ReadLine());
133         if(Quantity <= 0)
134         {
135             throw new WrongNumException();
136         }
137     }
138     catch (FormatException)
139     {
140         Console.WriteLine("Not a number! Please input again.");
141         InputQuantity();
142     }
143     catch (WrongNumException)
144     {
145         Console.WriteLine("Unreasonable quantity (negative or 0)! Please input again.");
146         InputQuantity();
147     }
148 }
150 public void InputMilkInfo()
151 {
152     Console.WriteLine("Getting Milk Info .....");
153     Console.WriteLine("Input Milk Name:");
154     ValMilkName = Console.ReadLine();
155     InputProductionDate();
156     InputExpiredDate();
157     InputQuantity();
158     Console.WriteLine("-----");
159 }
160 public void OutputMilkInfo()
161 {
162     Console.WriteLine("Displaying Milk Info .....");
163     Console.WriteLine("Milk Name: {0}", ValMilkName);
164     Console.WriteLine("Milk ID: {0}", ValMilkID);
165     Console.WriteLine("Production Date: {0}", ValProductionDate);
166     Console.WriteLine("Expired Date: {0}", ValExpiredDate);
167     Console.WriteLine("Quantity: {0}", ValQuantity);
168     Console.WriteLine("-----");
169 }
170 }
171 class WrongNumException : Exception
172 {
173     public WrongNumException() { }
174     public WrongNumException(string message) : base(message) { }
175 }
176 }

```

```

10     delegate void MilkInputOutput();
11
12     namespace Lab02
13     {
14         class Program
15         {
16             static void Main(string[] args)
17             {
18                 Milk milk = new Milk();
19
20                 MilkInputOutput MilkInput = new MilkInputOutput(milk.InputMilkInfo);
21                 MilkInputOutput MilkOutput = new MilkInputOutput(milk.OutputMilkInfo);
22                 MilkInput.Invoke();
23                 MilkOutput.Invoke();
24
25                 Type type = typeof(Milk);
26                 string OutputMessage = "Milk's Origin:";
27                 foreach (Object attributes in type.GetCustomAttributes(false))
28                 {
29                     MilkMoreInfo info = (MilkMoreInfo)attributes;
30                     if (info != null)
31                     {
32                         OutputMessage += String.Format("\n\tManufacturer: {0}", info.Manufacturer);
33                         OutputMessage += String.Format("\n\tCompany Name: {0}", info.CompanyName);
34                         Console.WriteLine(OutputMessage);
35                         Console.WriteLine("-----");
36                     }
37                 }
38
39                 Console.ReadKey();
40             }
41         }
42     }

```

C:\Windows\system32\cmd.exe

Getting Milk Info

Input Milk Name:

Moo Moo

Input Production Date:

what a nice day

Not a date! Please input again. (Example: 01/05/2021)

Input Production Date:

30/02/1975

Not a date! Please input again. (Example: 01/05/2021)

Input Production Date:

1/1/1980

Not a date! Please input again. (Example: 01/05/2021)

Input Production Date:

06/09/2001

Input Expired Date:

18/12/2001

Input Quantity:

-10

Unreasonable quantity (negative or 0)! Please input again.

Input Quantity:

0

Unreasonable quantity (negative or 0)! Please input again.

Input Quantity:

1000

Displaying Milk Info

Milk Name: Moo Moo

Milk ID: MILK06092001

Production Date: 06/09/2001

Expired Date: 18/12/2001

Quantity: 1000

Milk's Origin:

Manufacturer: Riot Games

Company Name: Garena Fried Chicken

Press any key to continue . . .