UML Diagram:

A screenshot of a cell phone

Description automatically generated

Code Output:

A screen shot of a computer

Description automatically generated

**using** **System**;

**namespace** **ECE2310\_HW09\_01**

{

**class** **Driver**

{

**static** **void** Main(string[] args)

{

*/\* Demoing the defaults \*/*

Console.ForegroundColor = ConsoleColor.Red;

Console.WriteLine(">>> Testing Defaults");

Console.ResetColor();

Grocery myGroceries = **new** Grocery();

Console.WriteLine(myGroceries);

Console.WriteLine();

*/\* Demoing modifying item within Grocery Class \*/*

Console.ForegroundColor = ConsoleColor.Red;

Console.WriteLine(">>> Modifying defaults from Grocery");

Console.ResetColor();

Grocery myGroceries2 = **new** Grocery();

myGroceries2.MyEggs.UnitPrice = 2.99;

myGroceries2.MyEggs.Quantity = 5;

Console.WriteLine(myGroceries2);

Console.WriteLine();

*/\* Demoing creating individual obj of produce classes and passing as param to Grocery \*/*

Console.ForegroundColor = ConsoleColor.Red;

Console.WriteLine(">>> Creating indiv item obj and passing to Grocery");

Console.ResetColor();

Eggs kirklandEggs = **new** Eggs();

kirklandEggs.Quantity = 24;

kirklandEggs.UnitPrice = 1.50;

Milk kirklandMilk = **new** Milk();

Bread kirklandBread = **new** Bread();

Grocery myGroceries3 = **new** Grocery(kirklandEggs, kirklandMilk, kirklandBread);

Console.WriteLine(myGroceries3);

Console.WriteLine();

}

}

}

**namespace** **ECE2310\_HW09\_01**

{

**public** **class** **Grocery**

{

Eggs eggs;

Bread bread;

Milk milk;

**public** Eggs MyEggs

{

**get** => eggs;

**set** => eggs = **value**;

}

**public** Bread MyBread

{

**get** => bread;

**set** => bread = **value**;

}

**public** Milk MyMilk

{

**get** => milk;

**set** => milk = **value**;

}

**public** Grocery()

{

eggs = **new** Eggs();

bread = **new** Bread();

milk = **new** Milk();

}

**public** Grocery(Eggs eggs, Milk milk, Bread bread)

{

MyEggs = eggs;

MyMilk = milk;

MyBread = bread;

}

**public** double Expense()

{

double expense = MyBread.TotalPrice() + MyEggs.TotalPrice() + MyMilk.TotalPrice();

**return** expense;

}

**public** **override** string ToString()

{

**return** ($"\t\t\*\*\* My Groceries \*\*\*\n{MyEggs.ToString()}\n{MyBread.ToString()}\n{MyMilk.ToString()}\n[+] Expense:\t{Expense():C2}");

}

}

}

**using** **System**;

**namespace** **ECE2310\_HW09\_01**

{

**public** **class** **Milk**

{

**private** double \_unitPrice = 4.75;

**private** uint \_quantity = 1;

**public** double UnitPrice

{

**get** => \_unitPrice;

**set**

{

**if** (**value** > 0)

{

\_unitPrice = Math.Round(**value**, 2);

}

}

}

**public** uint Quantity

{

**get** => \_quantity;

**set**

{

**if** (**value** > 0)

{

\_quantity = **value**;

}

}

}

**public** Milk() { }

**public** Milk(double unitPrice, uint quantity)

{

**this**.UnitPrice = unitPrice;

**this**.Quantity = quantity;

}

**public** double TotalPrice()

{

**return** (Math.Round(UnitPrice \* Quantity, 2));

}

**public** **override** string ToString()

{

**return** ($"Product: Milk\tUnit Price: {UnitPrice:C2}\tQuantity: {Quantity}");

}

}

}

**using** **System**;

**namespace** **ECE2310\_HW09\_01**

{

**public** **class** **Bread**

{

**private** double \_unitPrice = 2.50;

**private** uint \_quantity = 2;

**public** double UnitPrice

{

**get** => \_unitPrice;

**set**

{

**if** (**value** > 0)

{

\_unitPrice = Math.Round(**value**, 2);

}

}

}

**public** uint Quantity

{

**get** => \_quantity;

**set**

{

**if** (**value** > 0)

{

\_quantity = **value**;

}

}

}

**public** Bread() { }

**public** Bread(double unitPrice, uint quantity)

{

**this**.UnitPrice = unitPrice;

**this**.Quantity = quantity;

}

**public** double TotalPrice()

{

**return** (Math.Round(UnitPrice \* Quantity, 2));

}

**public** **override** string ToString()

{

**return** ($"Product: Bread\tUnit Price: {UnitPrice:C2}\tQuantity: {Quantity}");

}

}

}

**using** **System**;

**namespace** **ECE2310\_HW09\_01**

{

**public** **class** **Eggs**

{

**private** double \_unitPrice = 4.00;

**private** uint \_quantity = 3;

**public** double UnitPrice

{

**get** => \_unitPrice;

**set**

{

**if** (**value** > 0)

{

\_unitPrice = Math.Round(**value**, 2);

}

}

}

**public** uint Quantity

{

**get** => \_quantity;

**set**

{

**if** (**value** > 0)

{

\_quantity = **value**;

}

}

}

**public** Eggs() { }

**public** Eggs(double unitPrice, uint quantity)

{

**this**.UnitPrice = unitPrice;

**this**.Quantity = quantity;

}

**public** double TotalPrice()

{

**return** (Math.Round(UnitPrice \* Quantity, 2));

}

**public** **override** string ToString()

{

**return** ($"Product: Eggs\tUnit Price: {UnitPrice:C2}\tQuantity: {Quantity}");

}

}

}