**Milestone #2 – CustomerOrder class**

This milestone will implement and test the **CustomerOrder** class. The **CustomerOrder** class is used to encapsulate and manage all the details related to a **CustomerOrder** on the assembly line. The definition for the **CustomerOrder** class is defined below.

**Starting Point**

Re-use the same solution space your milestone #1 is in, but make the following modifications to the AssemblyLine.cpp file:

* Uncomment lines 12, 13 and 14
* Comment out line 35 – RunM1(os);
* Uncomment line 36 – RunM2(os);
* Uncomment the RunM2 function starting at line 78

**CustomerOrder Class**

A **CustomerOrder** object manages a single order on the assembly line and contains the following information:

* **std::string Name** – The name of the customer
* **std::string Product *–*** The name of the product being assembled
* **unsigned int ItemCount** – A count of the number of Items for the CustomerOrder
* **ItemInfo\*\* ItemList** – an ItemList Obect (as defined in the header file)
* **Unsigned int field\_width** – the maximum width of a field, used for display purposes

**Constructor**

The **CustomerOrder** has two constructors. A default constructor that places a **CustomerOrder** into a safe empty state and an overloaded constructor that takes a reference to a string containing a single record from the *CustomerOrders.txt* file. It will use the **Utilities** object to extract the tokens and populate the **CustomerOrder** object.

**Copy/Move Capabilities**

A **CustomerOrder** object should not allow copy operations. The copy constructor should throw an exception if called and the copy operator= should be delete.

A **CustomerOrder** object must allow move options. Therefore, you need to implement a move constructor and operator=

**Member Functions**

* **~CustomerOrder()** – A destructor that cleans up all dynamic memory within a **CustomerOrder** object
* **Bool getOrderFillStatus()** – Loops through the Items of the **CustomerOrder** and returns **TRUE** if all items have been filled, **FALSE** otherwise
* **Bool getItemFillState(std::string itemName)** – returns the **FillState** of the specified **itemName** passed into the function
* **Void fillItem(Item& item\_, std::ostream& os)** – Fills the **CustomerOrder** item that corresponds to the **Item** passed into the function. The function should output the state of the fill with the following information (format can be found in the sample output)
  + Filled/Unfilled
  + Customer Name
  + Product
  + Item Name
* **void Display(std::ostream& os)** – displays the current state of the **CustomerOrder** using the format provided in the sample output

**Milestone #2 – Sample Output**

The output for this milestone should look as follows:

CPU [123456] Quantity 5 Description: Central Processing Unit

Memory [654321] Quantity 10 Description: Basic Flash Memory

GPU [456789] Quantity 2 Description: General Porcessing Unit

SSD [987654] Quantity 5 Description: Solid State Drive

Power Supply [147852] Quantity 20 Description: Basic AC Power Supply

Manual Validation

getName(): CPU

getSerialNumber(): 123456

getSerialNumber(): 123457

getQuality(): 5

getQuality(): 4

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Elliott C.

Gaming PC

[0] CPU - MISSING

[0] Memory - MISSING

[0] GPU - MISSING

[0] GPU - MISSING

[0] GPU - MISSING

[0] SSD - MISSING

[0] Power Supply - MISSING

Chris S.

Laptop

[0] CPU - MISSING

[0] Memory - MISSING

[0] SSD - MISSING

[0] Power Supply - MISSING

Mary-Lynn M.

Desktop PC

[0] CPU - MISSING

[0] Memory - MISSING

[0] Power Supply - MISSING

Chris T.

Micro Controller

[0] GPU - MISSING

[0] GPU - MISSING

[0] Power Supply - MISSING

[0] SSD - MISSING

Manual Validation

Chris T.

Micro Controller

[0] GPU - MISSING

[0] GPU - MISSING

[0] Power Supply - MISSING

[0] SSD - MISSING

Chris T.

Micro Controller

[0] GPU - MISSING

[0] GPU - MISSING

[0] Power Supply - MISSING

[0] SSD - MISSING

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Chloe

Flight PC

[0] CPU - MISSING

[0] GPU - MISSING

[0] Power Supply - MISSING

Mary-Lynn M.

Desktop PC

[0] CPU - MISSING

[0] Memory - MISSING

[0] Power Supply - MISSING

\*\*\*\*\*\*\*

getFillStatus(): MISSING

Filled Mary-Lynn M., Desktop PC[CPU]

getFillStatus(): MISSING

Filled Mary-Lynn M., Desktop PC[CPU]

Filled Mary-Lynn M., Desktop PC[Memory]

Filled Mary-Lynn M., Desktop PC[Power Supply]

getFillStatus(): FILLED