***CIS 422 Assignment 4***

You have just been hired as a developer for Plastico, a company that makes 4 different plastic products: a plastic table, a plastic chair, a plastic skateboard and a plastic wagon. The dispatching system used to process customer orders is a very archaic paper-based system and management would like you to write a new system that allows customer orders to be entered, work to be dispatched and an updated inventory to always be visible. After discussing the manufacturing system with the plant supervisor, you have learned the following regarding the 4 products that are manufactured:

*Product 1 – Plastic Table – 10 Minutes to Assemble*

1 Plastic Top

4 Plastic Legs

4 Fasteners

*Product 2 – Plastic Wagon – 20 Minutes to Assemble*

1 Plastic Top

8 Plastic Wheels

8 Fasteners

2 Plastic Long Sides

2 Plastic Short Sides

*Product 3 – Plastic Skateboard – 5 Minutes to Assemble*

1 Plastic Long Side

4 Plastic Wheels

4 Fasteners

*Product 4 – Plastic Chair – 15 Minutes to Assemble*

1 Plastic Top

1 Plastic Short Side

4 Legs

6 Fasteners

The company has 5 assembly areas each of which can assemble any product. The company also has a very simple order dispatching system – each order is dispatched as it arrives and an assembly area is open to receive the order. The company has manufacturing operations running 24 hours per day, 7 days per week.

The company has provided you with the following inventory information:

*Item Quantity On Hand*

Plastic Tops 1000

Plastic Legs 1500

Fasteners 5000

Plastic Short Sides 1500

Plastic Long Sides 1500

Wheels 2000

Customer orders arrive and are placed into the system in batches. Each order may contain multiple items and quantities. Your system should start up and show the initial inventory and dispatch work to the various assembly areas. You need to produce a report that will show the order number, item name, quantity, assembly area that will perform the work, when the work will be started (time and date) and when the work will be completed (time and date). You can assume that all five workstations will be idle as of midnight on the date the orders are entered.

Here is your initial set of orders:

Cust # Order # Item Quantity

104 1001 Table 20

Chairs 30

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117 1002 Skateboard 10

Wagon 20

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102 1003 Table 20

Chairs 20

Wagon 30

Skateboard 20

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109 1004 Skateboard 10

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107 1005 Table 2

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154 1006 Wagon 25

Table 30 Chairs 45

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143 1007 Wagon 2

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119 1008 Table 30

Chairs 60

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137 1009 Table 10

Chairs 16

Skateboard 3

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147 1010 Skateboard 6

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132 1011 Chairs 20

Skateboard 5

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133 1012 Chairs 10

Tables 15

You should plan on being able to process orders both from files and manually through the GUI. A simple file layout similar to this would be sufficient for any input file:

104 1001 Table 20

104 1001 Chairs 30

117 1002 Skateboard 10

117 1002 Wagon 20

The first column is the customer ID, the second column is the order ID, the third column is the product being ordered and the last column is the quantity of that product. Each column is tab delimited and each line is terminated with a carriage return/line feed. There is no header on the file. You should have the initial set of orders in a file called Orders.txt and that should be the default filename that you display when a user indicates that he/she wants to load a batch of order from a file. Obviously any textfile name should be allowed to override that name; it’s just a starting point.

I will run your program by file loading the initial set of orders from a file. I will then use the GUI to enter some orders manually one by one. I will then run a second set of orders from another file.

Start this assignment **today** and build it incrementally. Get the basic database working first, then start adding functionality and the GUI. The GUI should be the last thing that you worry about!!!!!!! Have fun, good luck and be prepared to work hard and learn a lot! Don’t wait just because I’ve given you a large chunk of time – this program will bury you if you don’t get going!! You have been warned!!!!

Upload your project to Canvas and in class turn in a hard copy of your program cover sheet, source code and screenshots taken of the execution of your program.