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| CMPT370 – GROUP 02 – FALL 2013 | | | | |
| Milestone 5: Warehouse Management System | | | | |
| Updated Design and Near-Complete Implementation | | | | |
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1. **System Operations**

1. routeStockTasks(Object[][] itemsList)

Controller - Stock Handler

A list of items that must be gathered or put away are passed in, they are then ordered by the operation to provide the optimal path. The ordered list is passed back to the stock handler

controller.

2. locateProduct(int itemId)

Controller - System

An item ID is passed to this operation. The operation then locates the products current location(s) within the warehouse and returns the bin coordinates (x, y) back to the system.

3.Select shipping requirement:

User select a shipping requirement in table. Then presses ship. The new shipping task generated in system. and the data of item number, item name, item quantity, destination, data has been assign to the new shipping task

4.Assign shipping task to shipping company and stock handler:

User select a stock handler and a shipping company in the table. Then presses comfirm, system will assign the selected stock handler and shipping company to the new shipping task

5.Add new employee info

Manager click the add button in the bottom of Manager UI. the new window is visible and type in the new employees information in the related textfields. Then click save button to save and close table.

If the manager change their mind, he or she can click cancel.

6.edit employee info

Manager selects an employee in the current Employee List. the click edit button and open a new window. Similarly, managers can change and save it, or cancel it.

7. delete employee info

Manager selects employees info which isn’t needed anymore. then click delete button to delete it.

8. drawOnClickBin (int x, int y)

Controller - all users

add the new bin in the array and call repaint() function to draw the bin, which will display on the map system.

9. drawCoordinate (Graphics g)

Controller - all users

draw the coordinate which points out which bin the user is working on right now.

10. loadTable(int orderNumber )

        orderNumber The index of the order that the database will use to find the specific order they are looking for.

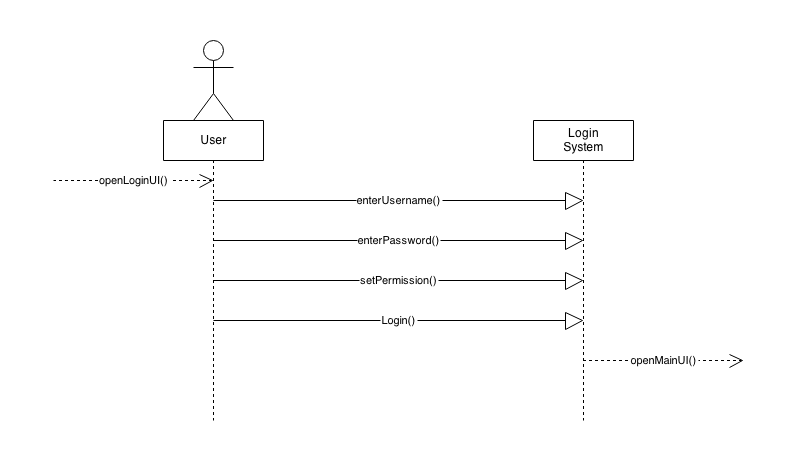
        Return the table that is referenced by the order number.

11. printTable(javax.swing.JTable palletTable)

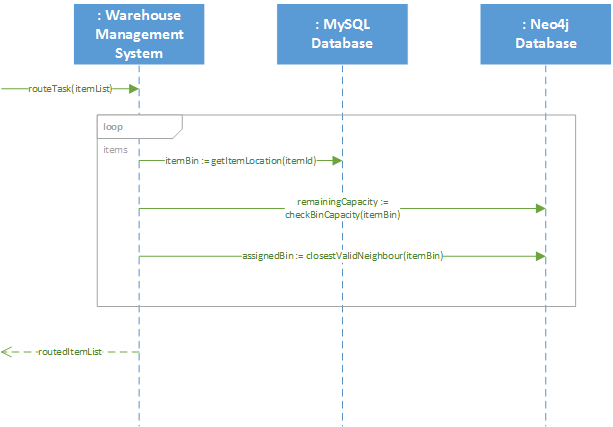
       Sends any table that is input into it to the printer to be printed.

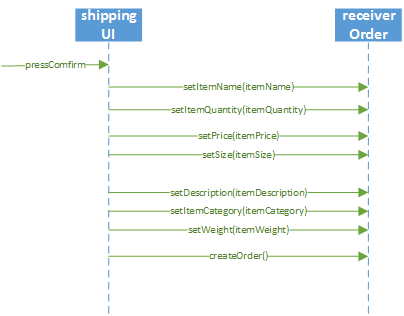
1. **Interaction Diagrams/Sequence Diagrams**

*Login – openLoginUI()*



*Routing Stocking Tasks – routeTask(itemList)*

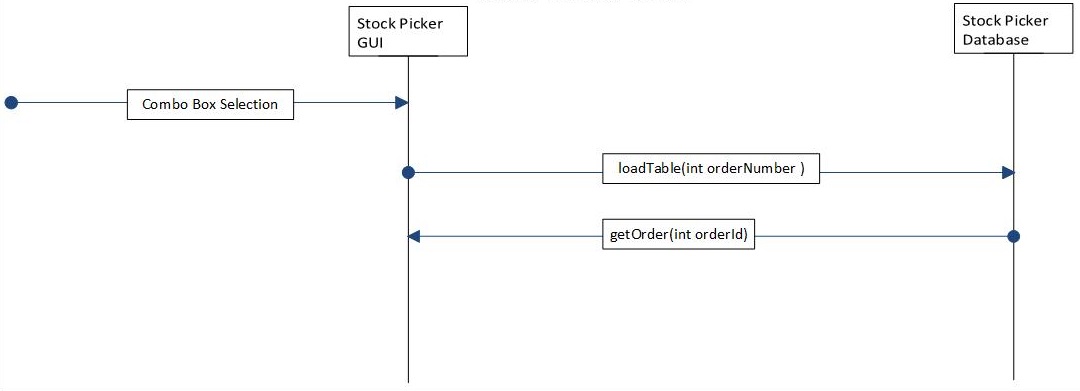
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* Confirm Products Received – confirmReceive(item)*

*Manage Employees – updateEmployee(name, ID, title, work, nextWork, number)*

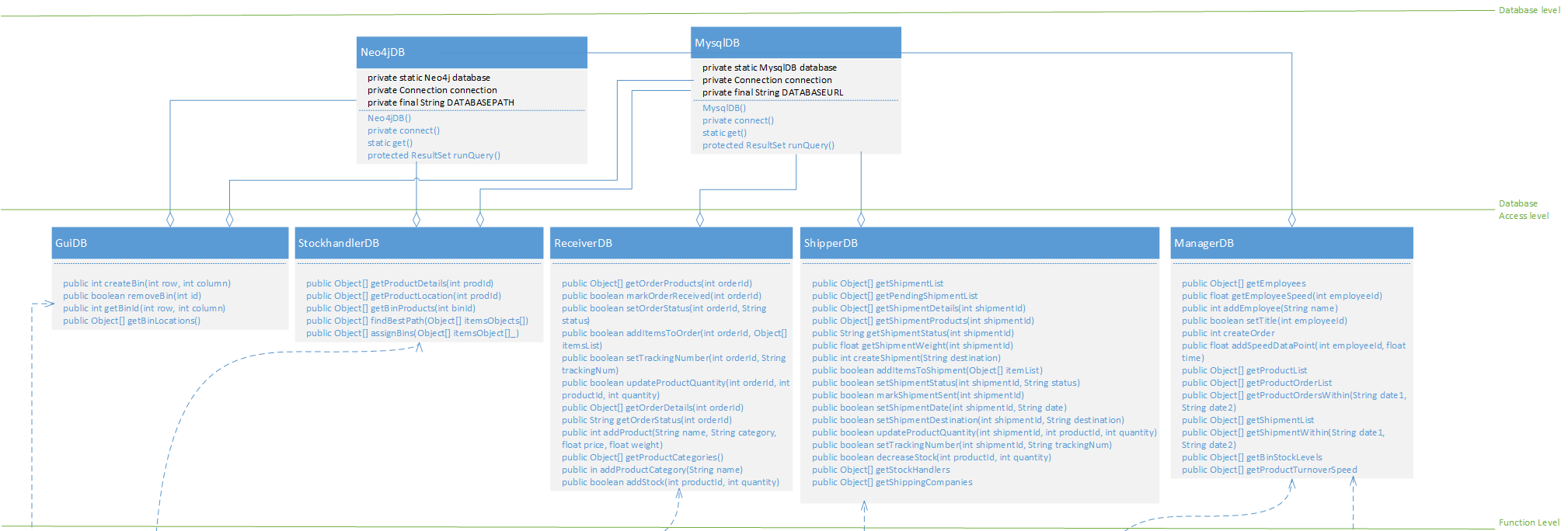


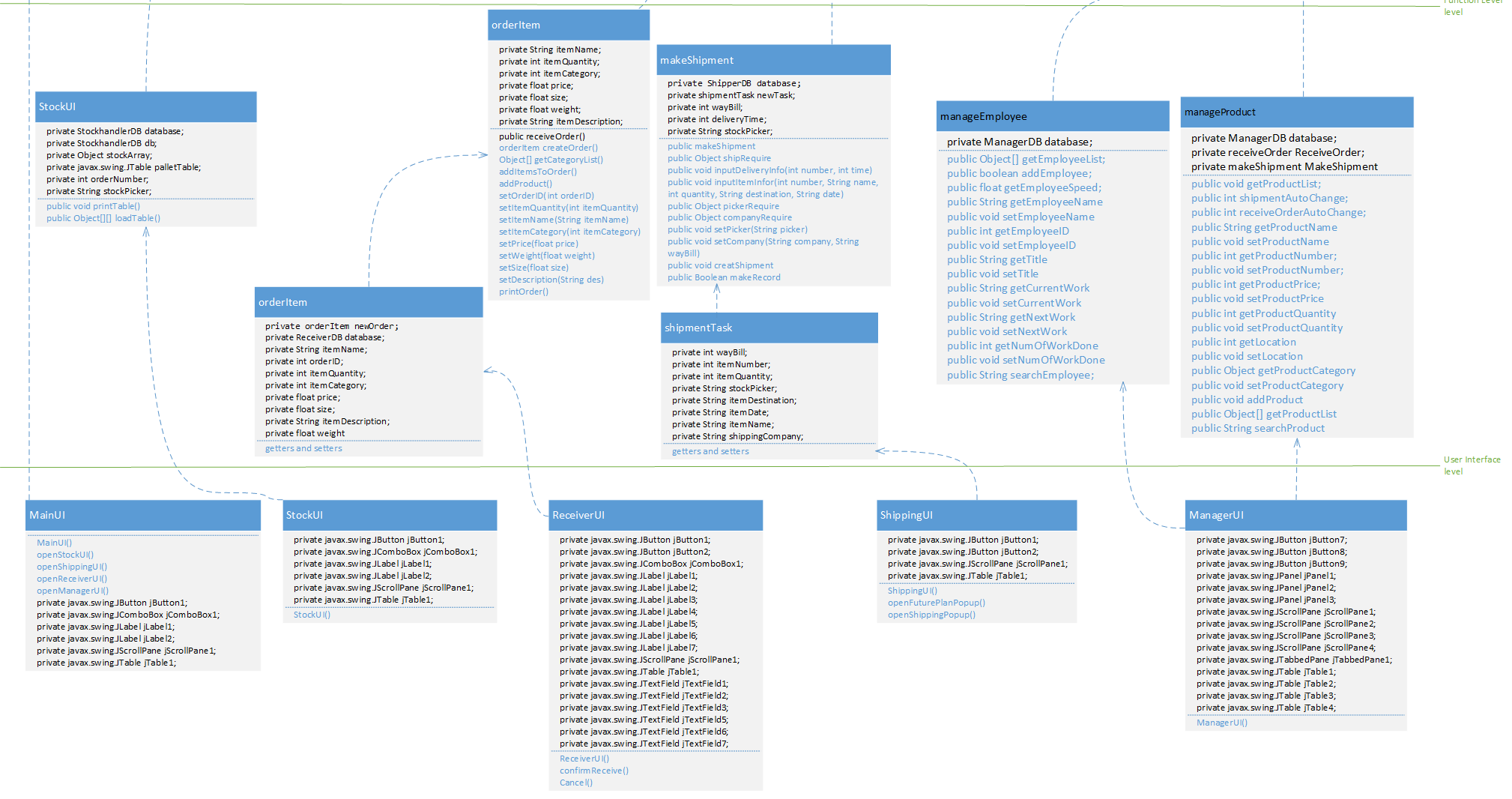
*Load Table Item – loadTable(int orderNumber)*



1. **Class Diagram**

Due to the size of our class diagram, the diagram below has been split over two pages. To view the diagram in its entirety, please open group02\_classDiagram.pdf, also contained in our submission.



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1. **Implementation**
2. **User Manual**

*Login User Manual*

Currently, the system only has one user, to log in enter the credentials as follows:

User ID #: 1

Password: password

Permission: Manager

Any other credentials will deny your access to the system.

*Map User Manual*

1. Add bins: double click an empty cell.

2. Delete bins: right click a non-empty cell and click “delete” option on the shown popup.

3. Move bins: drag the bins around; if the coordinate gets red, it’s not allow to move the bins.

4. Locate bins: choose Menu bar (Search -> Locate) and enter the item id, then press locate button.

5. Check Details: double click a non-empty cell.

NOTE: Do not move the bins out of the map

*Database Package User Manual*

The database package utilizes two different databases, a MySQL Database, and a Neo4j Graph Database.

The MySQL database is located on the uSask servers, and is connected to remotely by the MysqlDB class.

The Neo4j database is stored locally within the application, in the graphDatabase/warehouse-db folder. No set up is required by the user to install or use Neo4j.

Calling each database to run a query is done through the static method runQuery, for example:

MysqlDB.runQuery(query);

Neo4jDB.runQuery(query);

Within the database package is a number of interfaces and classes that implement the database functionality for each major task. This are the only classes that will use the runQuery methods from above.

Only the classes in the sub-packages of the database package will ever access the MysqlDB.java and Neo4j.java classes. Each major function of the system has it's own database class that contains methods that will create queries, request the queries to be run, process and format the results, and return them to the calling method for use.

The 5 classes that can be used are:

GuiDB

ManagerDB

ReceiverDB

ShipperDB

StockHandlerDB

Within each class are all of the functions required for use by each part of the program. To use each class, an instance must be created, that instance can then be used to run the methods for each class.

Overall, this is done by:

<name>DB database=new <name>DB();

<returnType> return=database.<method>(<parameter1>, <parameter2>...<parameterN>);

Here is an example usage:

ManagerDB database=new ManagerDB();

String return=database.getProductName(123); //Where 123 is the product's ID

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Receiver System:

Login the system, click Receiver button at the right side of main interface.

Input all the information of incoming item. Then Press Confirm.

The new item will write to the database.

If want to cancel, click Cancel button.

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Shipping System:

Login the system, click Shipper button at the right side of main interface.

In the shipping interface, user can see all the shipping requirement today.

To check the future plan, click Future Plan and user can see all the shipping plan.

To make a shippment, select a shipping requirement in table, then click Ship button.

After click Ship button, user can assign shipping task to Stock Handler and Shipping Company.

Select the Stock Handler and Shipping Company, and input Tracking Number, then click Confirm button, the new shipping task will be created.

It will output all the information in text for test now.

If want to cancel, click Cancel button.

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Order Stock System:

Login the system, click Shipper button at the right side of main interface. Then click OrderStock button on the top of manager interface.

If there are the same item in stock, user can search the details of the item by following setp:

1.Input item name or item number.

2.Click Search button.

3. If system can find the name or number in database, other information will fill in the text field automatically.

(If user input both name and number, the system will only use the name to search)

4. Input Quantity

If there are no same item in stock, user need to input all the information.

Then Click Confirm. the new order will be created.

It will output all the information in text for test now.

For test now, if user input "apple" or "banana" in name text field now, or input "1" or "2" in number text field,

system will find the same item in database.

If user input other data, system can not find the item can will not return any data.

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Modify Inventory:

Login the system, click Shipper button at the right side of main interface. Then click Modify Inventory button on the top of manager interface.

If there are the same item in stock, user can search the details of the item by following setp:

1.Input item name or item number.

2.Click Search button.

3. If system can find the name or number in database, other information will fill in the text field automatically.

(If user input both name and number, the system will only use the name to search)

If there are no same item in stock, nothing will be filled in the text field.

After search, user can modify any text field.

Then click Confirm button, the new data will be written to database.

It will output all the information in text for test now.

For test now, if user input "apple" or "banana" in name text field now, or input "1" or "2" in number text field,

system will find the same item in database.

If user input other data, system can not find the item can will not return any data.

Management System

Login in the system with the supervisor access authority, click manager button at the right side of main UI

ManageEmployee:

Choose Employee List in the top menu bar to get into manageEmployee UI

1.Add new employee info

Manager click the add button in the bottom of Manager UI. the new window is visible and type in the new employees information in the related textfields. Then click save button to save and close the window. If managers change their mind, they can click cancel and close window.

2.edit employee info

Manager selects an employee in the current Employee List. the click edit button and open a new window. Similarly, managers can change and save it, or cancel it.

3. delete employee info

Manager selects employees info which isn’t needed anymore. then click delete button to delete it.

ManageProduct:

Choose Product List in the top menu bar to get into manageProduct UI

1.Add new product info

Manager click the add button in the bottom of Manager UI. the new window is visible and type in the new product information in the related textfields. Then click save button to save and close window.

If the managers change their mind, they can click cancel and close window.

2.edit product info

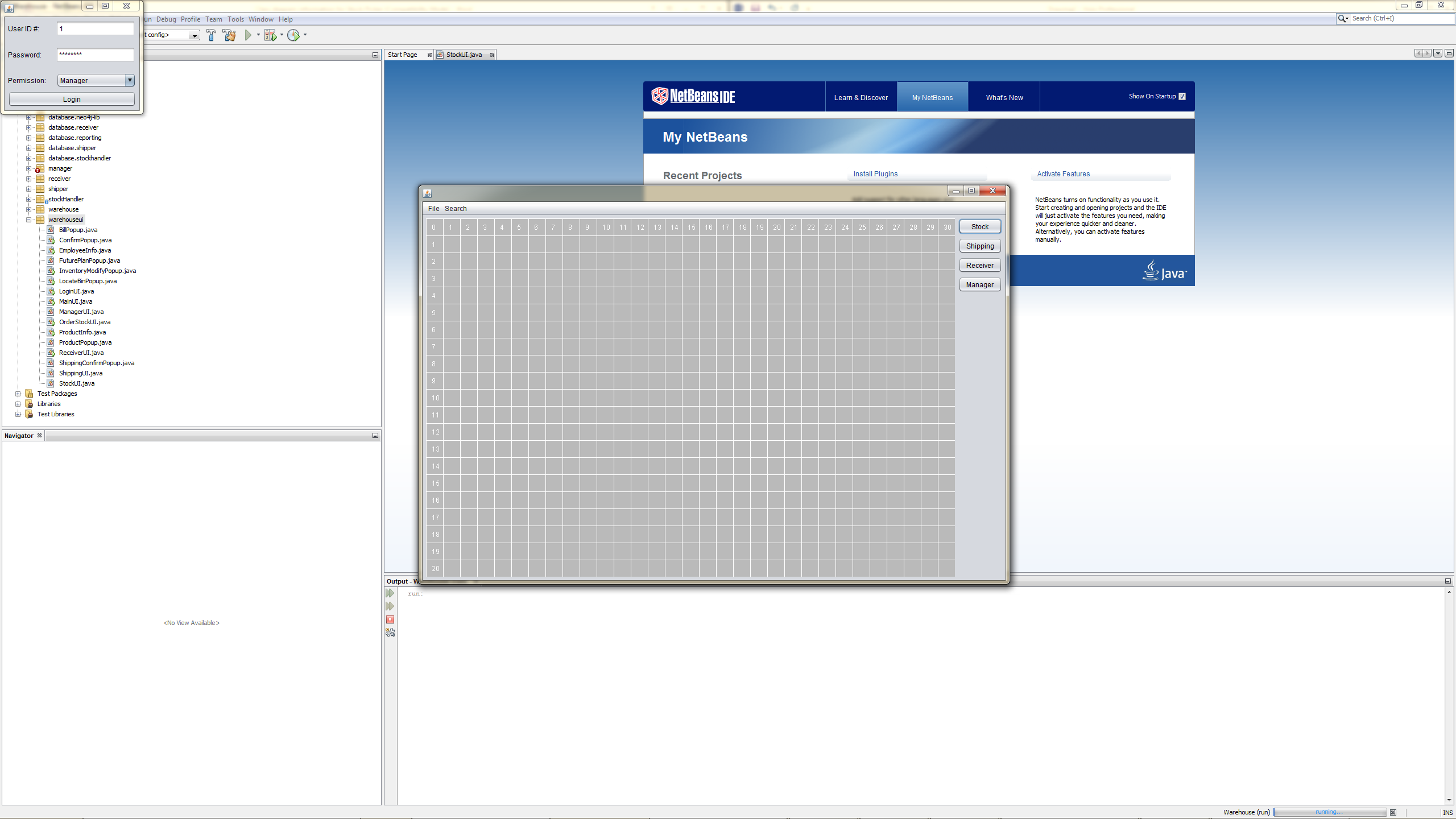
Manager selects an product in the current Product List. the click edit button and open a new window. Similarly, managers can change and save it, or cancel it.

3. delete product info

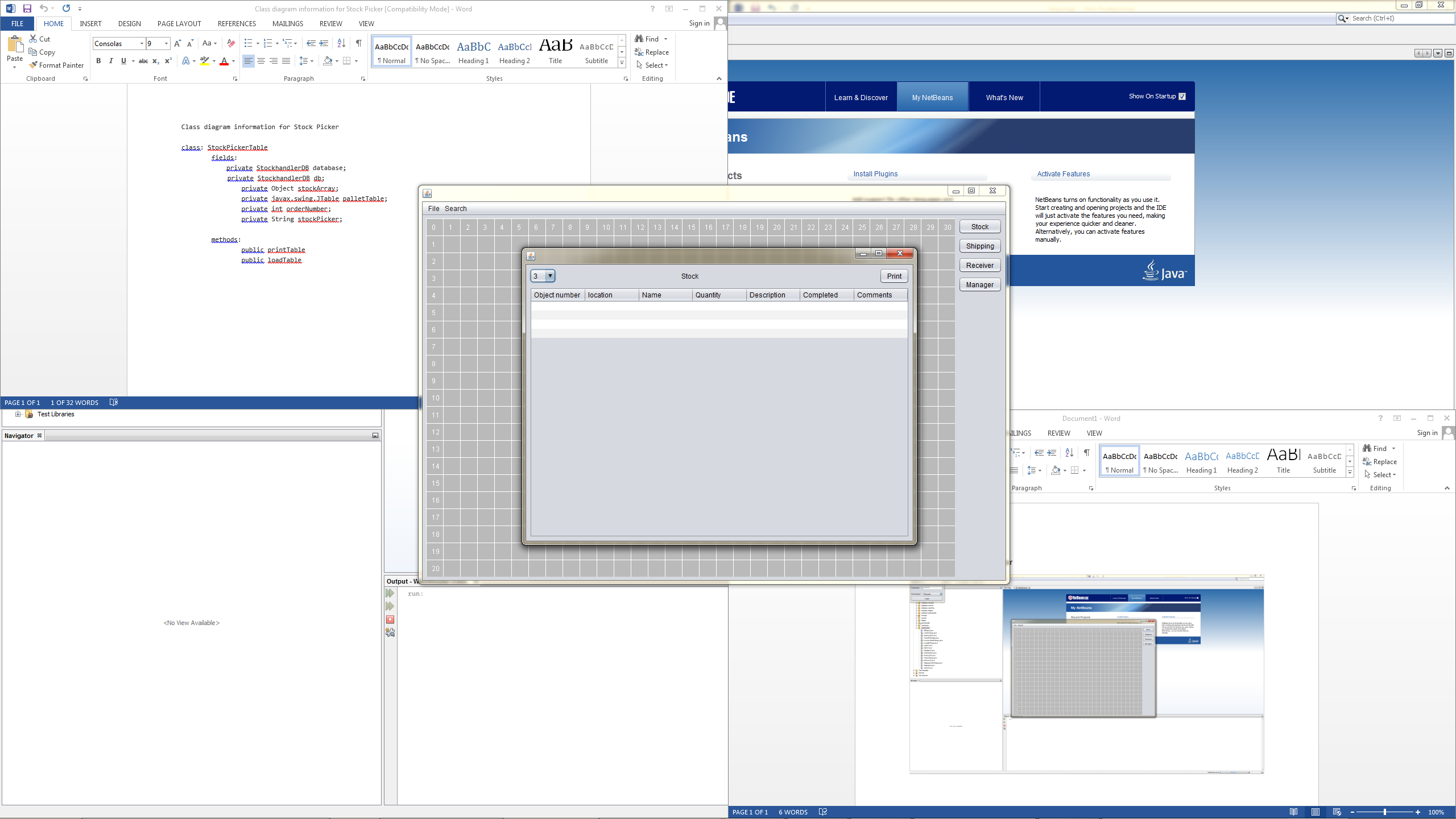
Manager selects products info which isn’t needed anymore. then click delete button to delete it.

User Manual for a stock picker

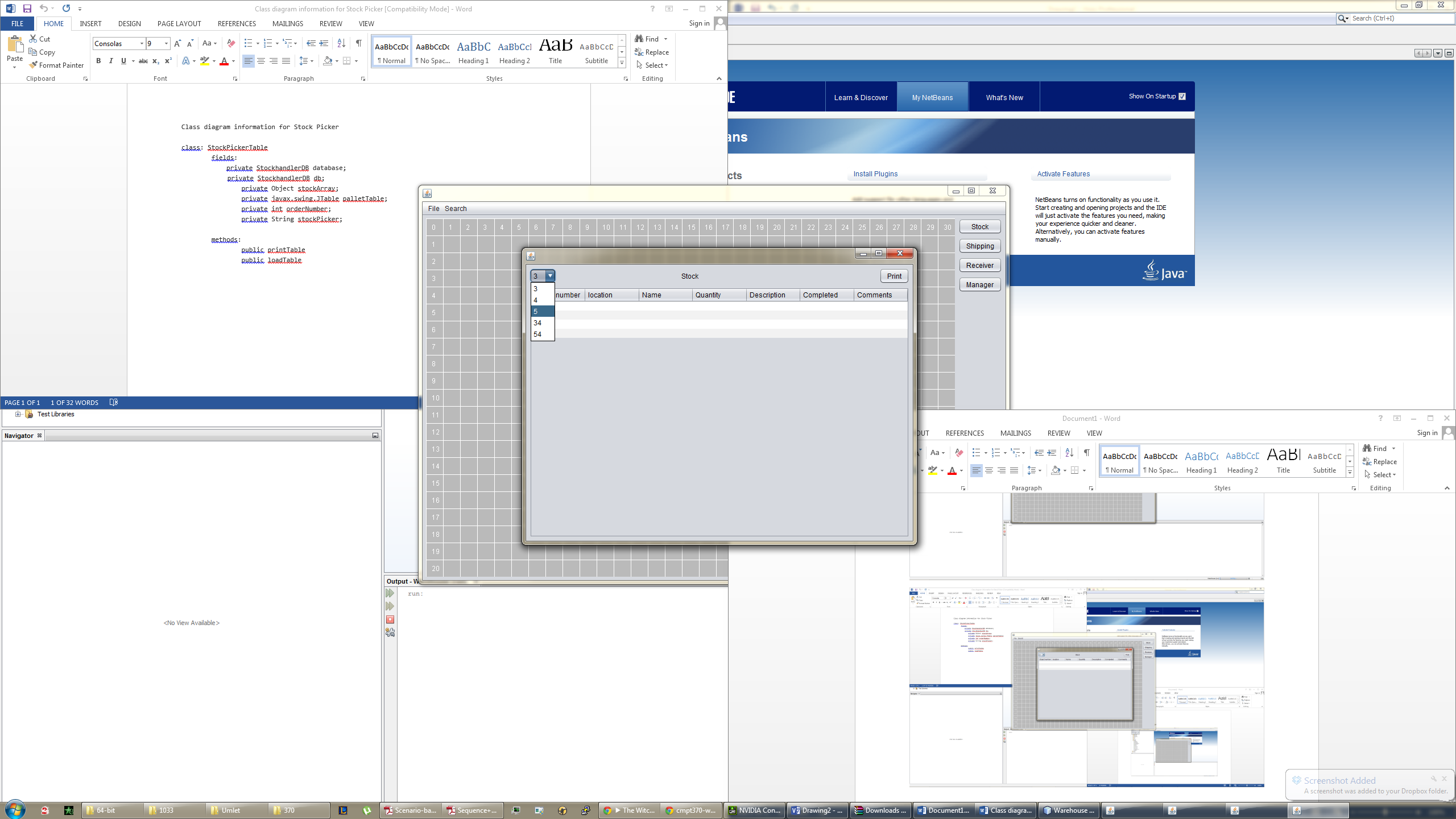
In the home screen click on the stock button.



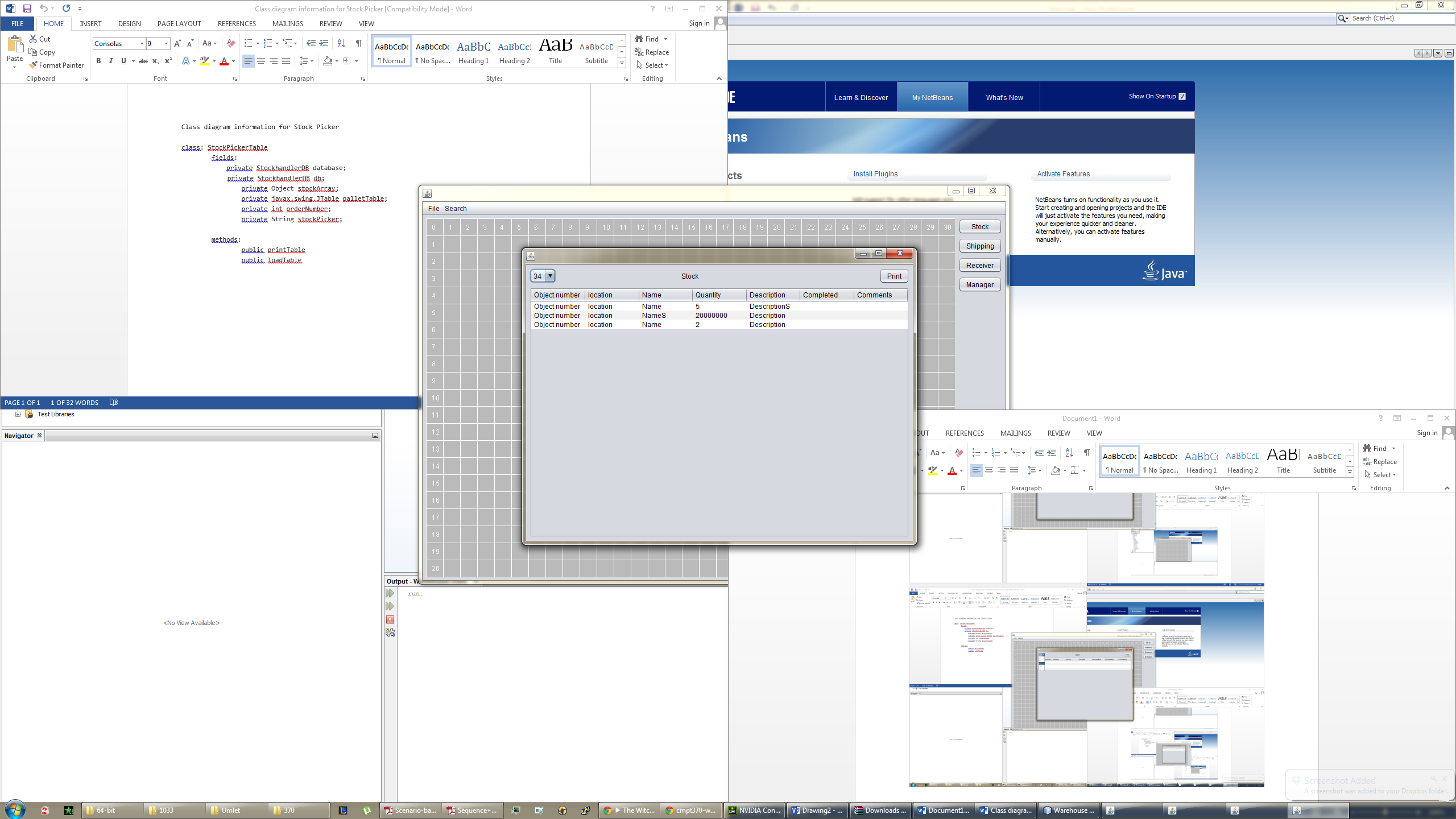
Next select the order you wish to fill. Select the combo box by clicking on it.



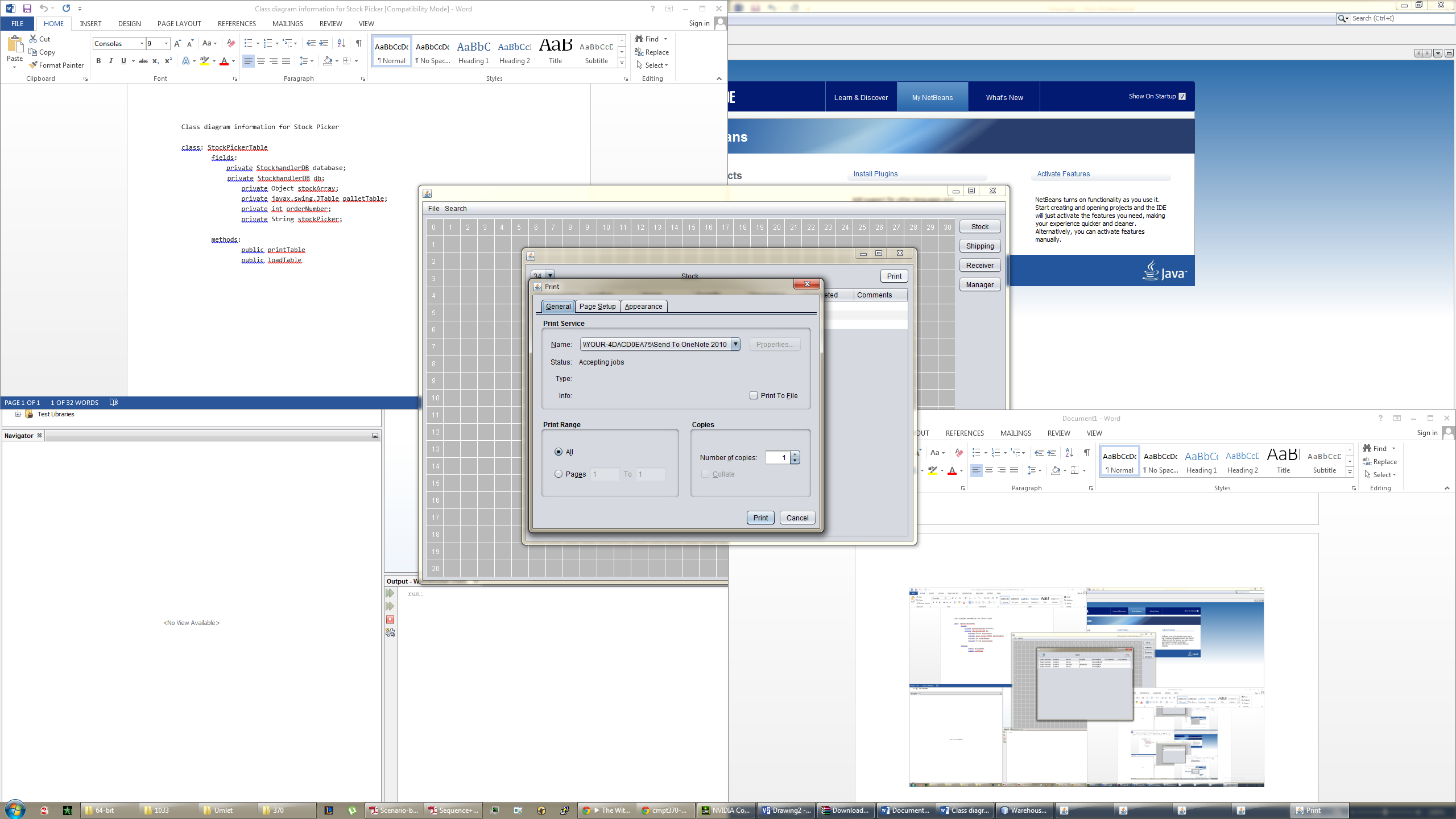
Now select the order you wish to be displayed in sorted, order 5 is currently selected.



Now the table will be populated with your order. Select print to print the document.



Chose your printing options or simple click print to print the document.



Congratulations you have now printed your order to do in the fastest possible route.

1. **Meeting Minutes**
2. **Git Log**
3. **Project Plan**