

# Inventory Management System

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Analysis phase(phase-1)

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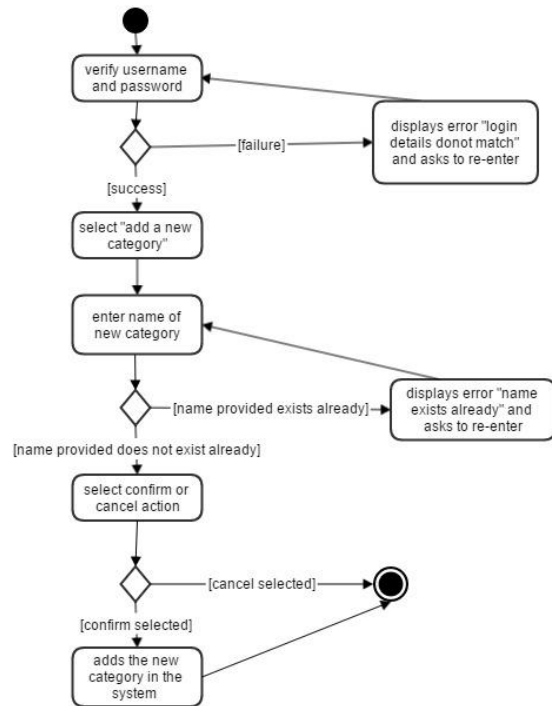
Muzammil Muneer(13L-4156)

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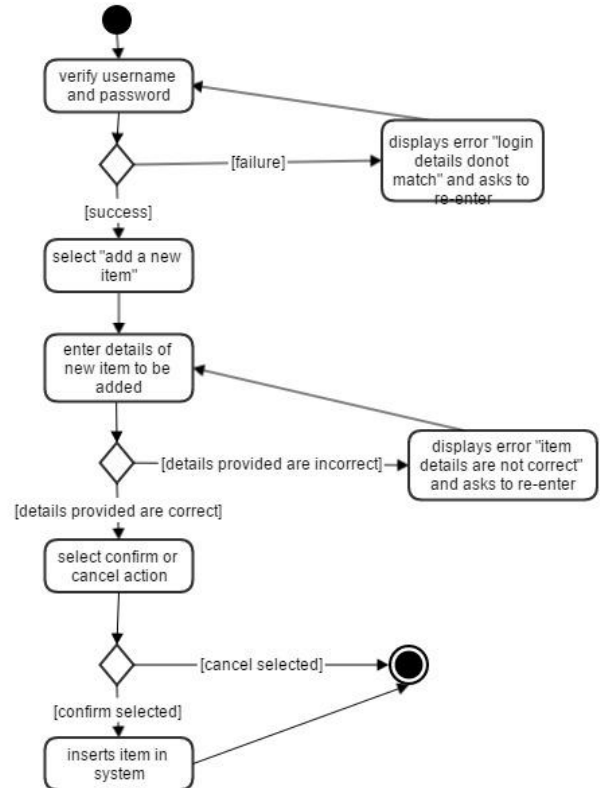
Muhammad Talal Rashid(13L-5883)

# Activity Diagrams

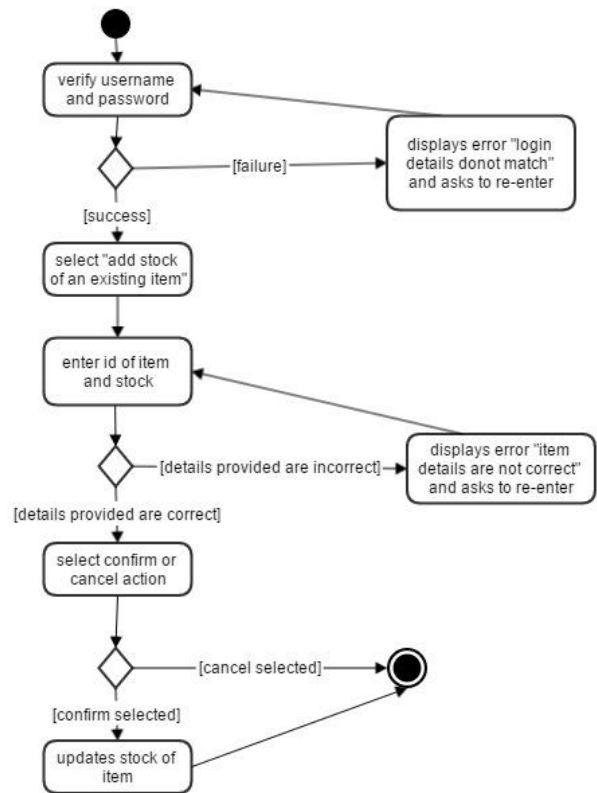
Add category



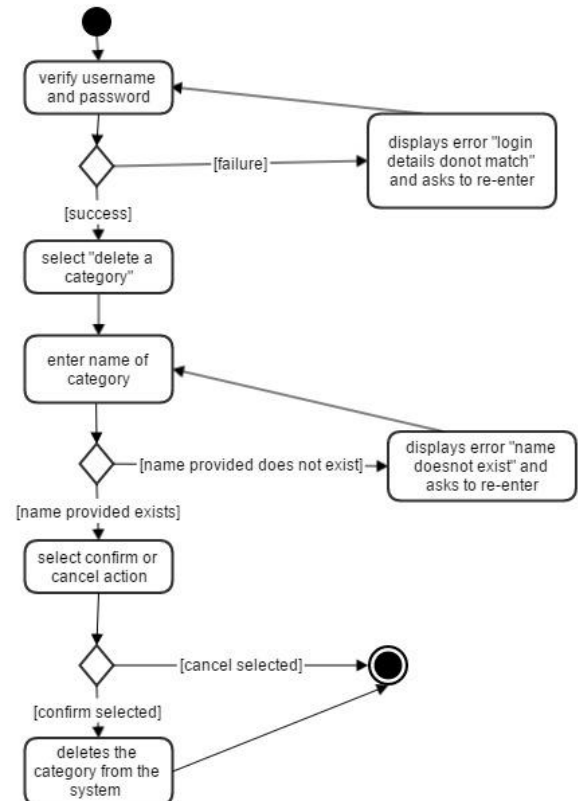
Add new Item



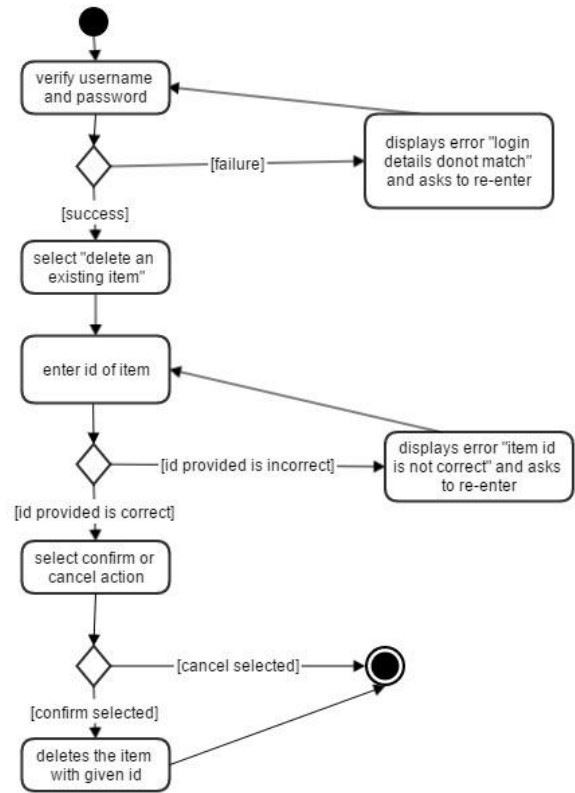
### Add stock of existing item



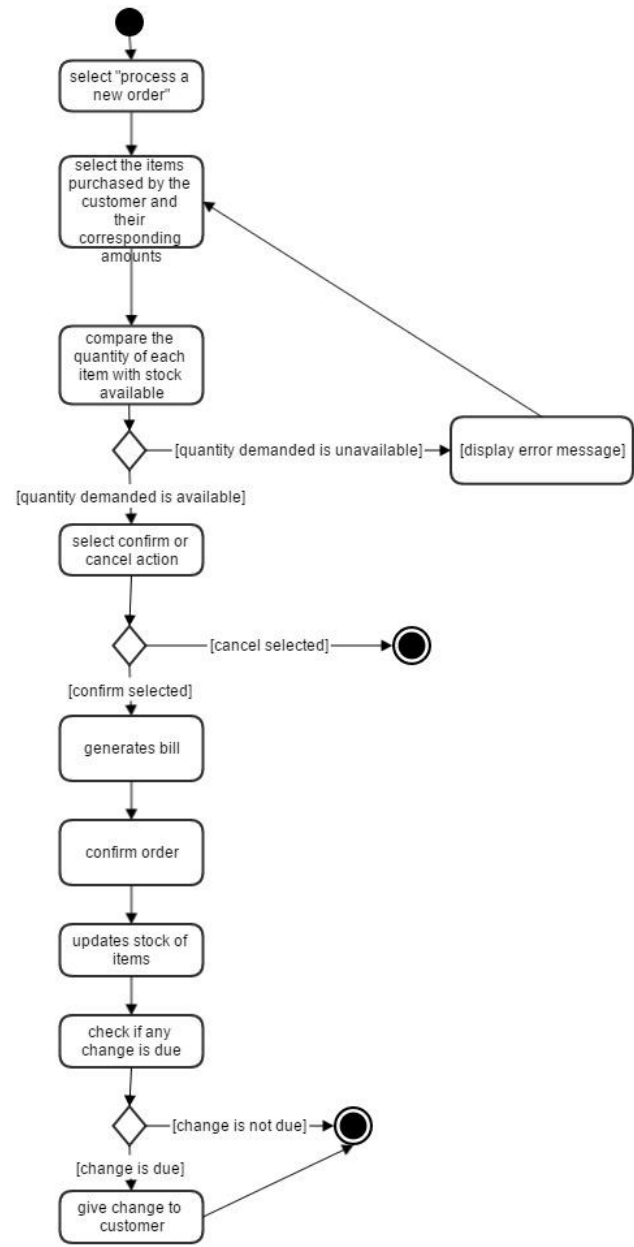
### Delete category



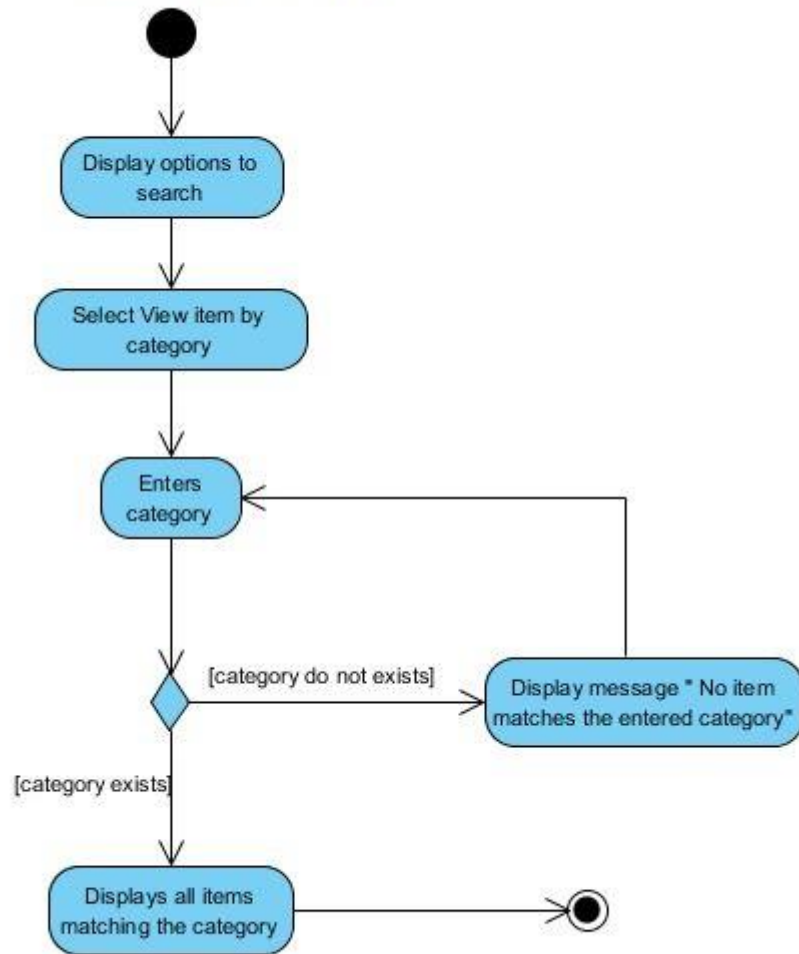
# Delete an item



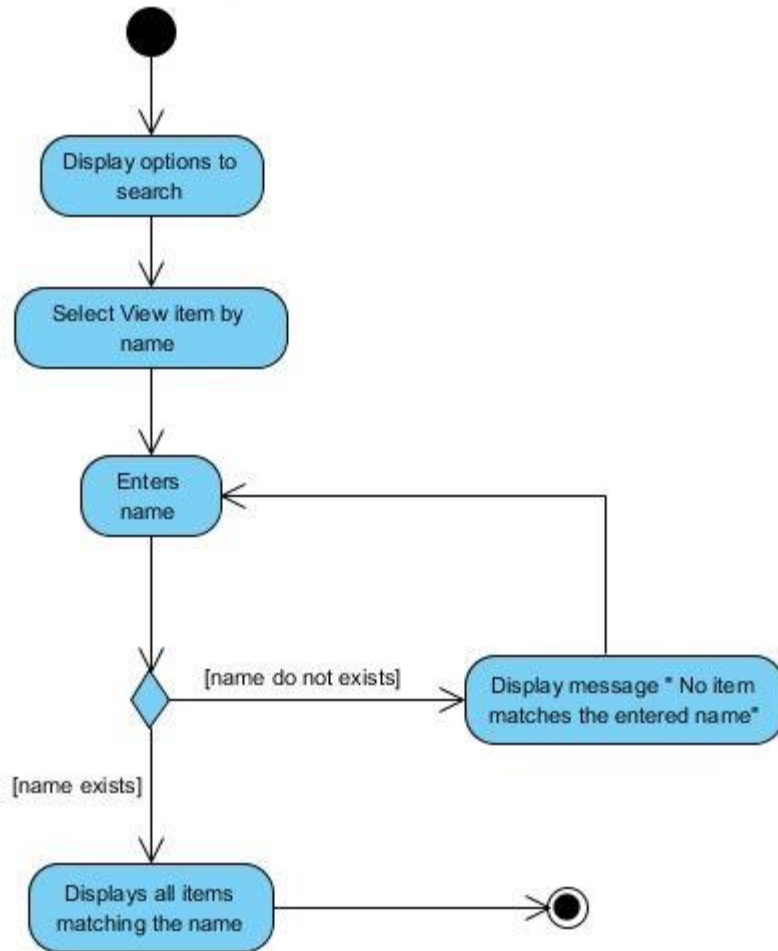
Process an order



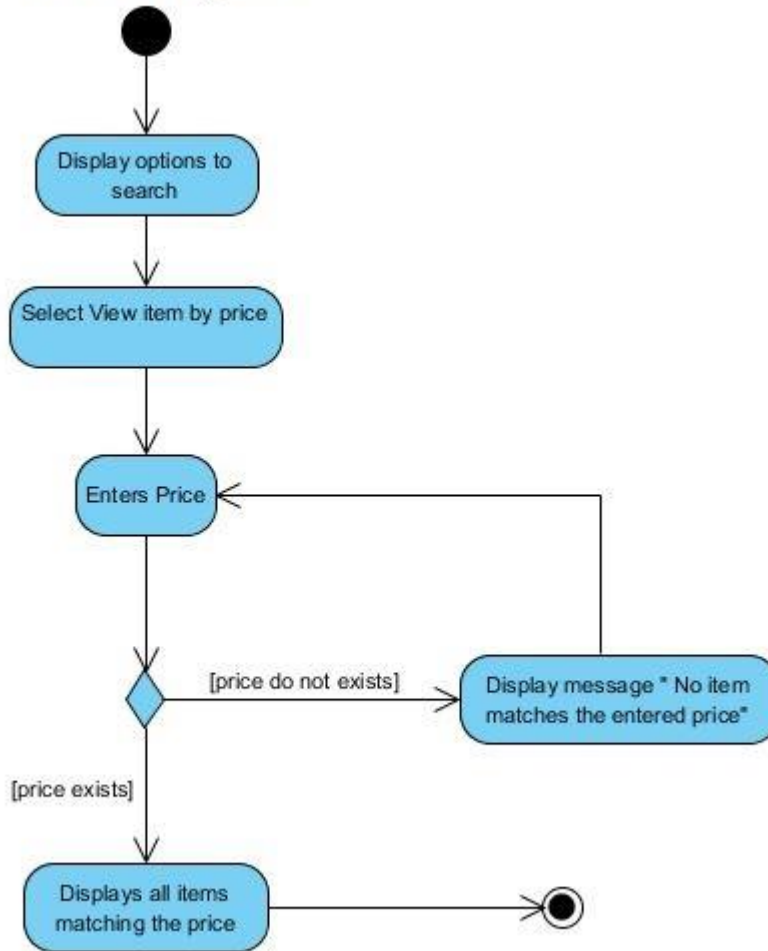
## View item by category



## View item by name

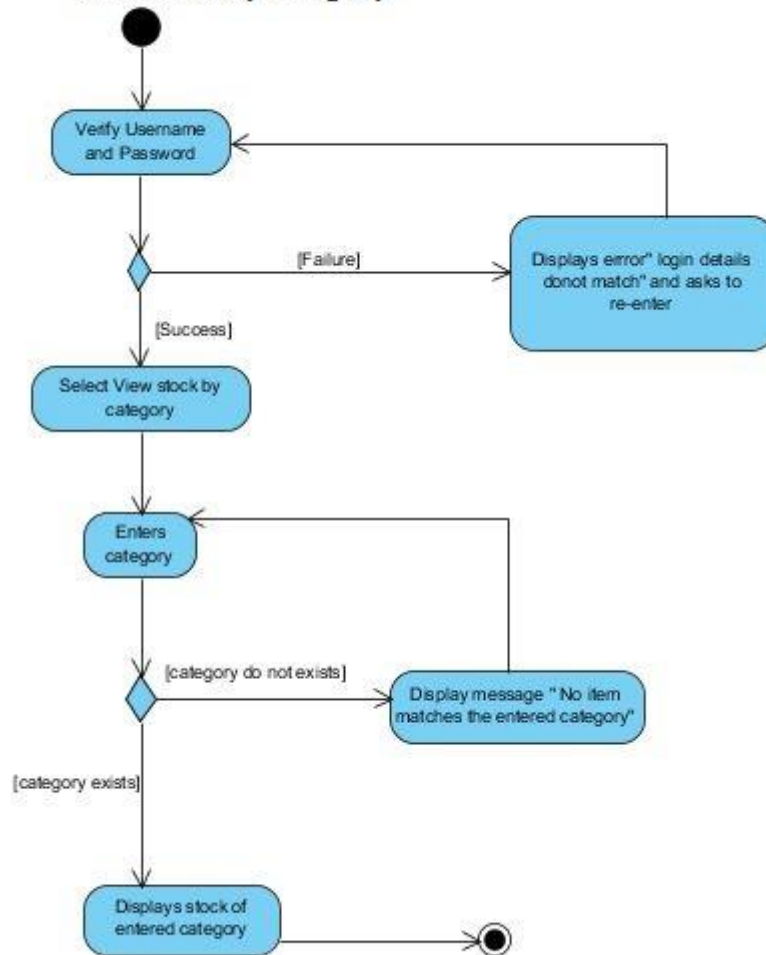


## View item by price

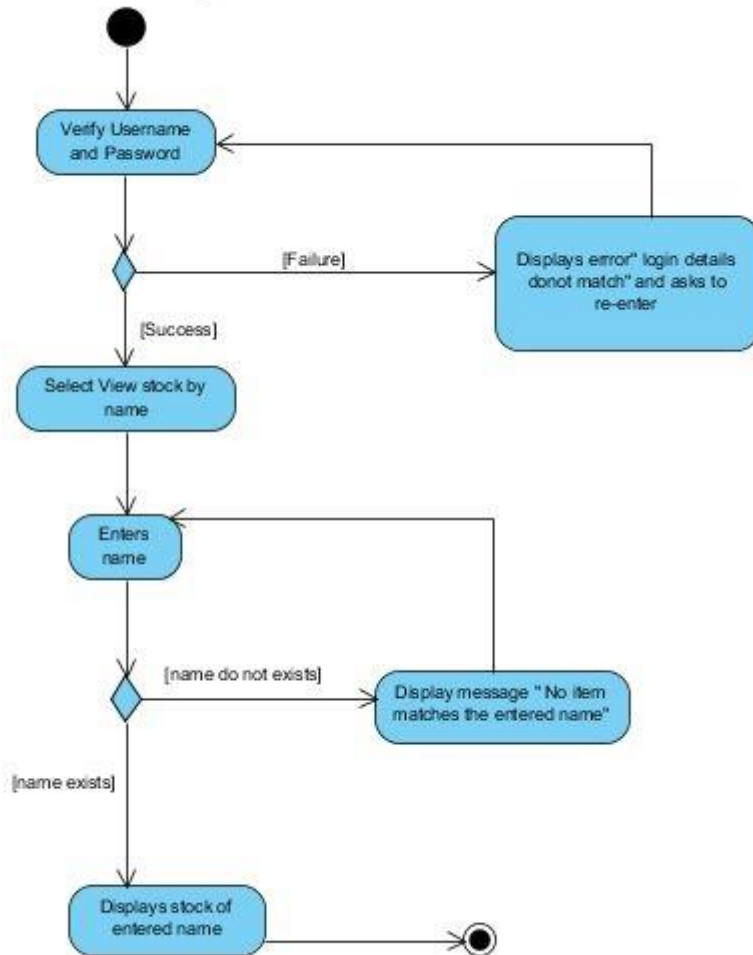




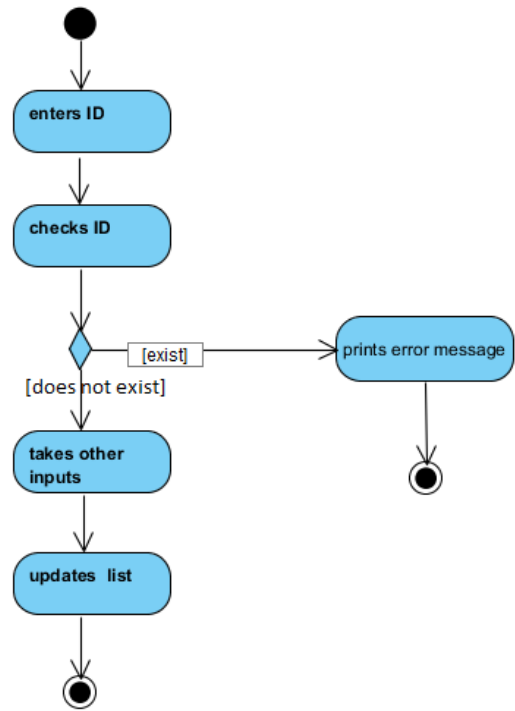
## View stock by category



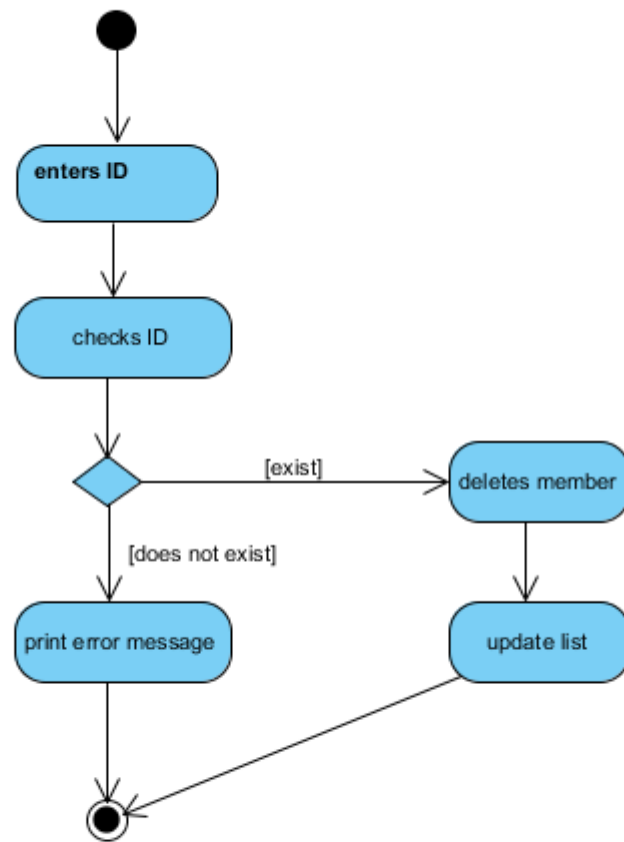
## View stock by name



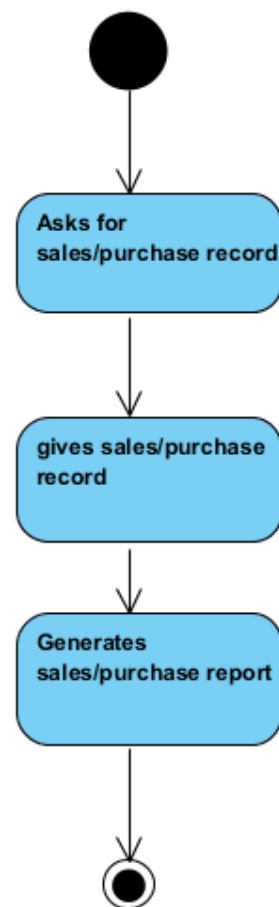
adds staff member



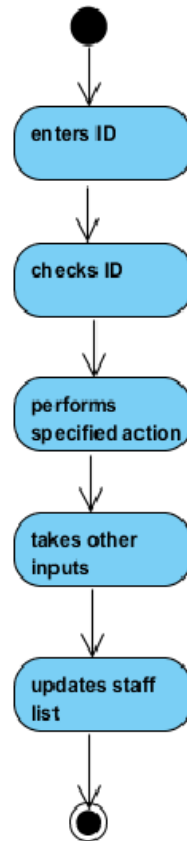
## Removes staff member



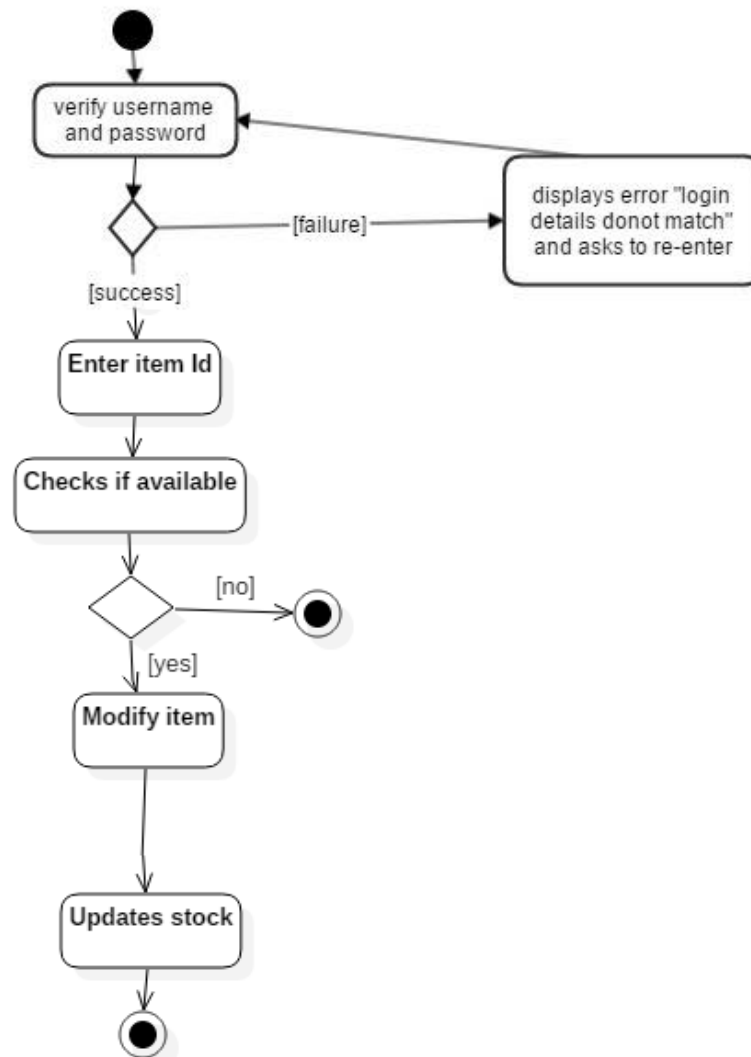
generate report



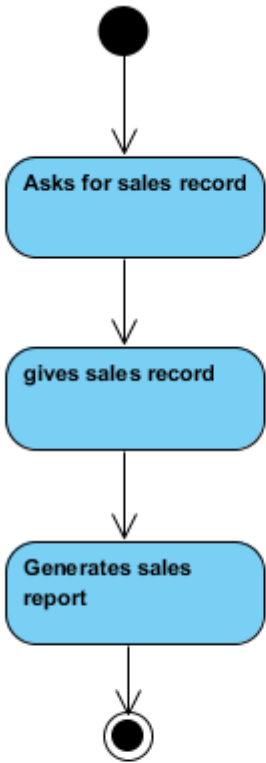
## Modify staff



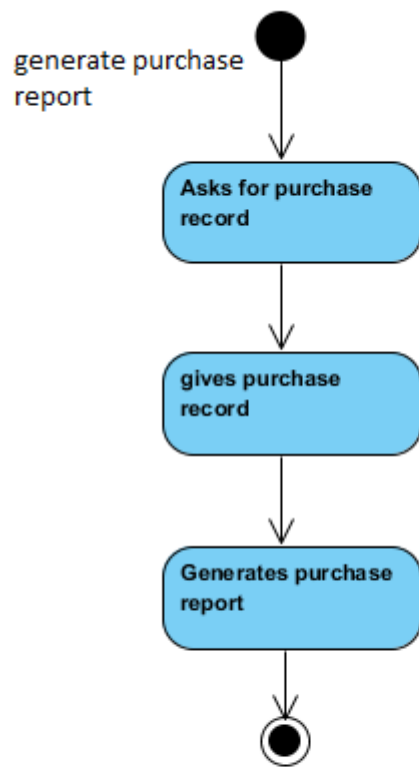
## Modify item



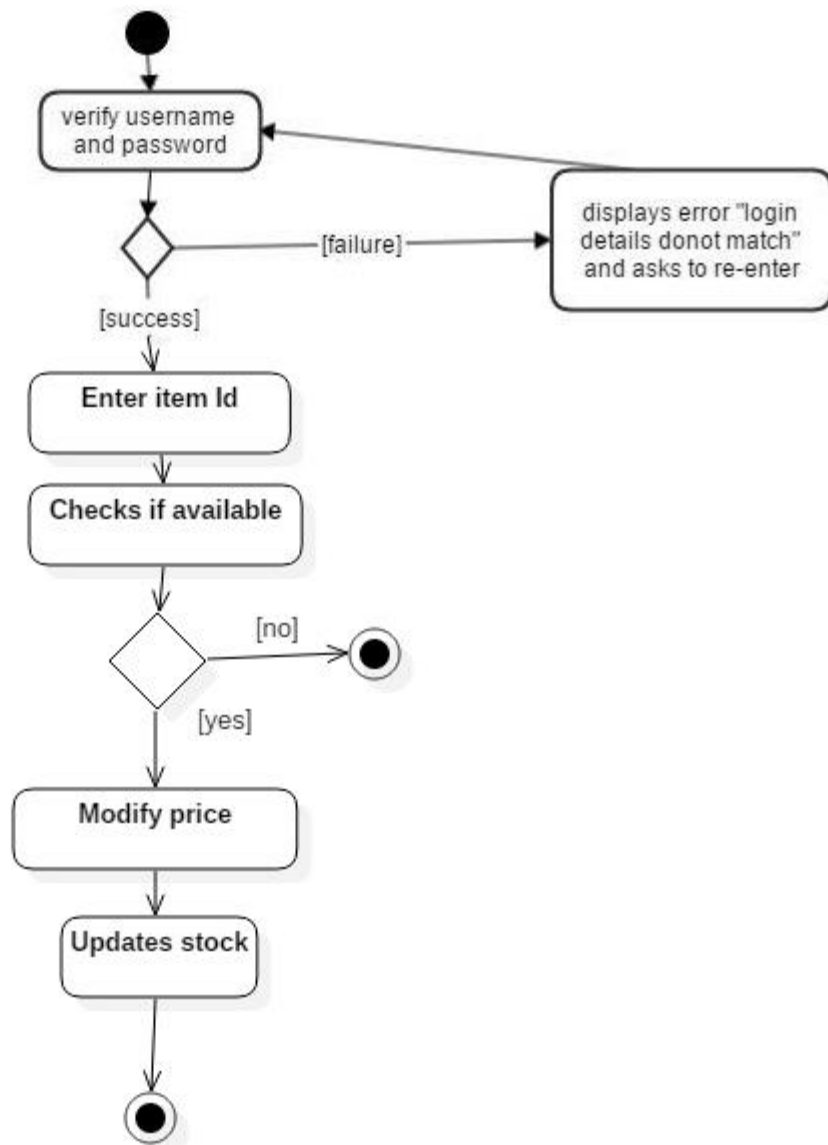
generate  
sales



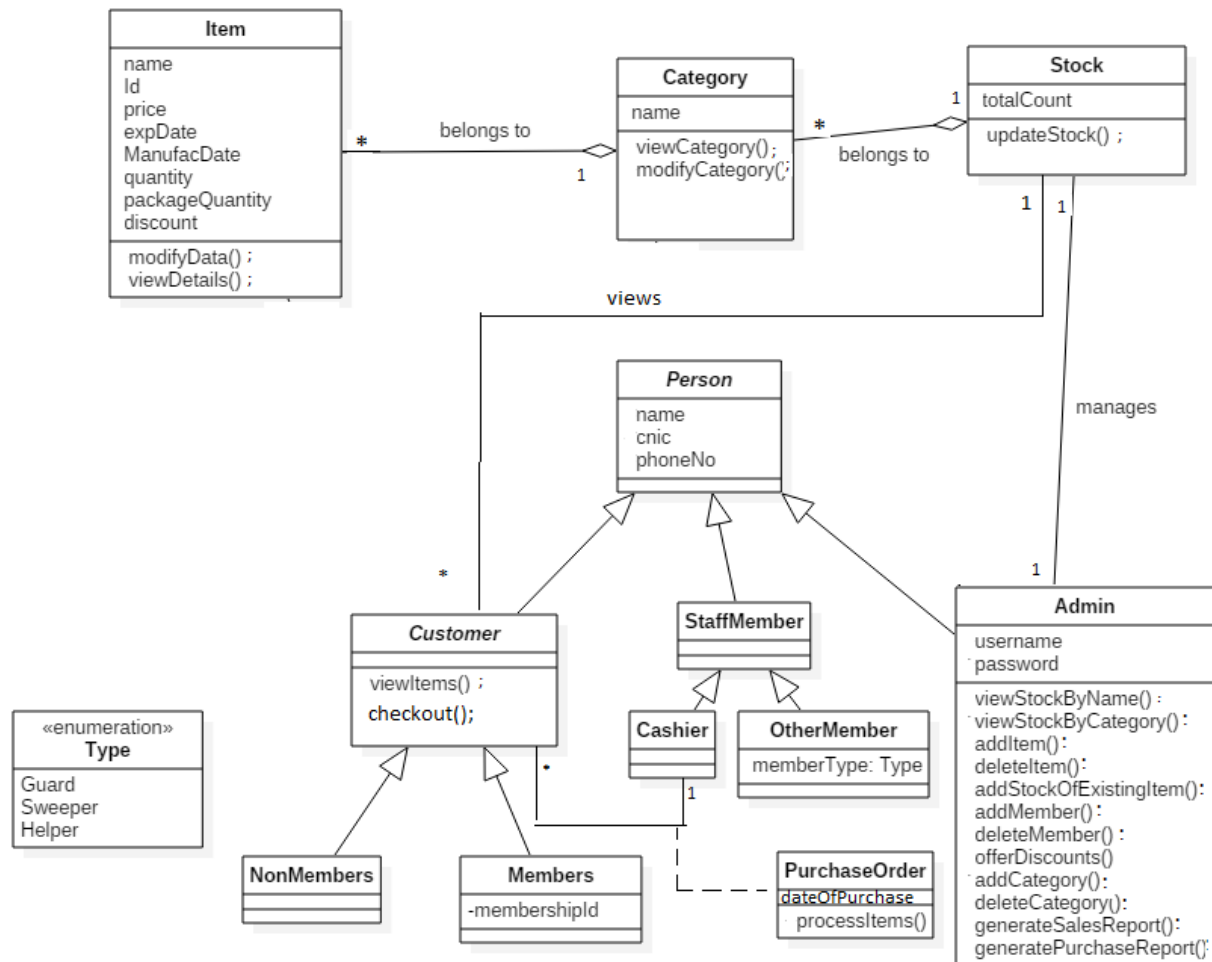




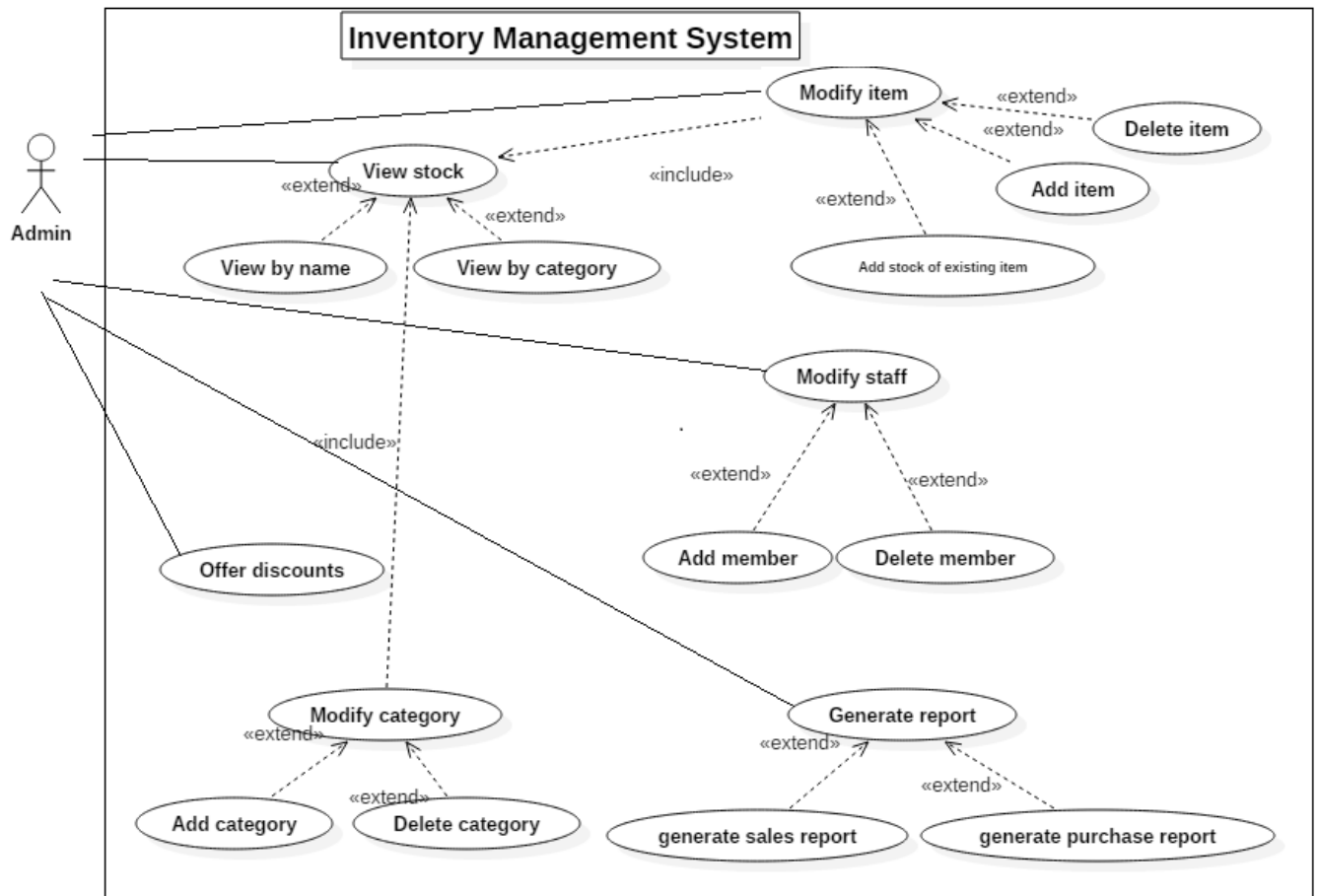
## Offer discounts

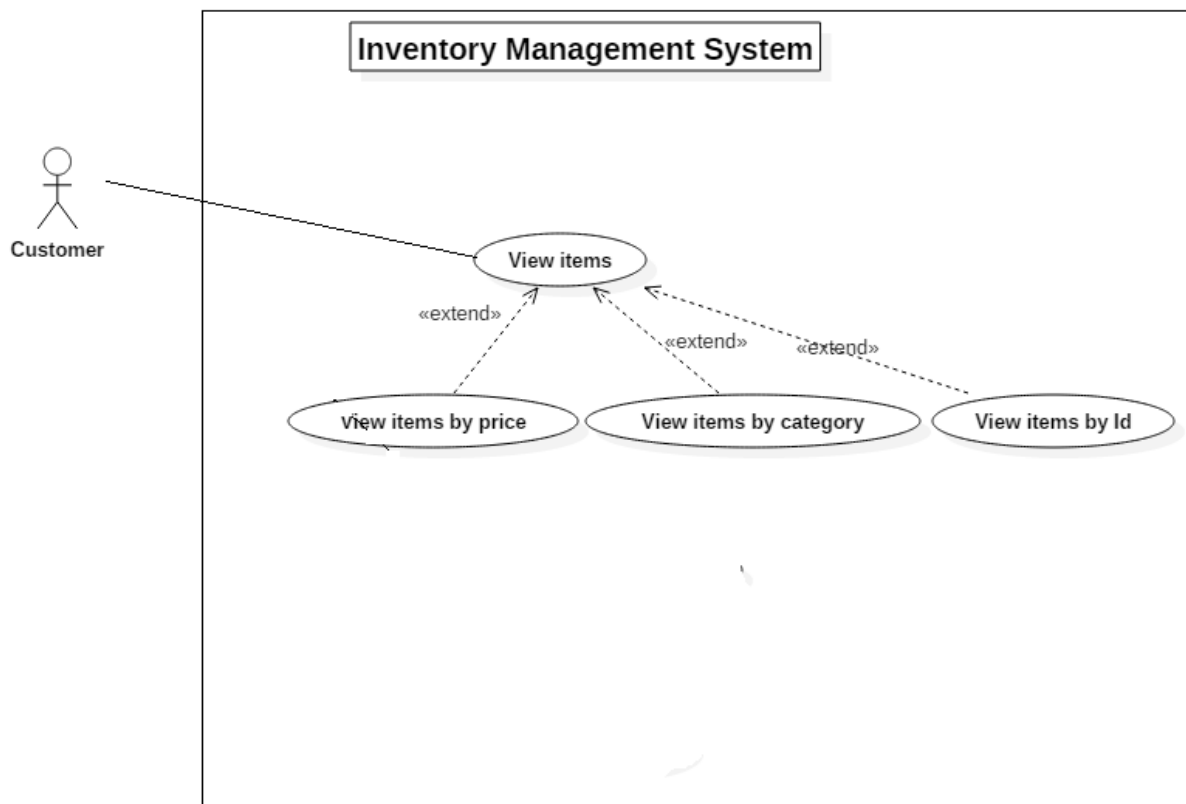
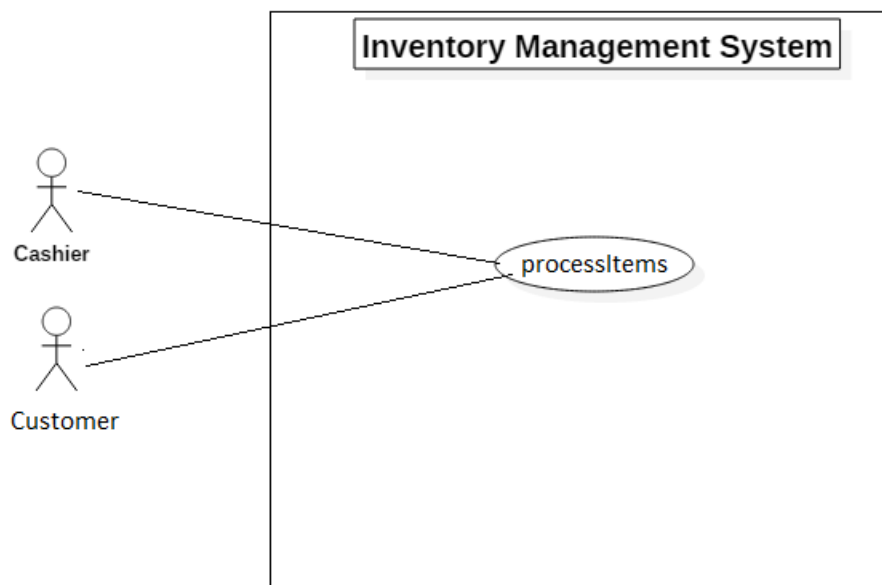


# Analysis Class Diagram



# Use-Case Diagrams





## Use-Case Templates

Identifier	UC-1	
Name	View Stock	
Summary	This use case describe how an administrator view stock in the inventory.	
Priority	High	
Actors	Administrator	
Pre-condition(s)	System is online	
Post-condition(s)	Display Stock of every item in the inventory	
Typical Course of Action		
S#	Actor Action	System Response
1	Enter username and password	
2		Displays menu.
3	Selects View Stock option either by category or by name.	
4		Displays stock either by category or by name.

<b>Identifier</b>	UC-2	
<b>Name</b>	View Stock by name	
<b>Summary</b>	This use case describe how an administrator view stock in the inventory filtered by name.	

<b>Priority</b>		High
<b>Actors</b>		Administrator
<b>Pre-condition(s)</b>		System is online
<b>Post-condition(s)</b>		Display Stock of every item in the inventory
<b>Typical Course of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>1</b>	Enter username and password	
<b>2</b>		Displays menu.
<b>3</b>	Selects View Stock option	
<b>4</b>		Displays view stock options
<b>5</b>	Selects View Stock by name option	
<b>6</b>		Prompts for name
<b>7</b>	Enters name of the item	
<b>8</b>		Displays stock of the entered item
<b>Alternate Course(s) of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>7</b>	Enters name of the item.	
<b>8</b>		Displays message "No item matches the entered name"
<b>9</b>		Go to step 6.

<b>Identifier</b>		UC-3
<b>Name</b>		View Stock by category
<b>Summary</b>		This use case describe how an administrator view stock in the inventory filtered by category.
<b>Priority</b>		High
<b>Actors</b>		Administrator
<b>Pre-condition(s)</b>		System is online
<b>Post-condition(s)</b>		Displays Stock of every item in the category and waits for further instruction.
<b>Typical Course of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>1</b>	Enter username and password	
<b>2</b>		Displays menu.
<b>3</b>	Selects View Stock option	
<b>4</b>		Displays view stock options

<b>5</b>	Selects View Stock by Category option	
<b>6</b>		Prompts for category
<b>7</b>	Enters name of the category	
<b>8</b>		Displays stock of every item in the selected category
<b>Alternate Course(s) of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>7</b>	Enters name of the category.	
<b>8</b>		Displays message " Entered category does not exists"
<b>9</b>		Go to step 6.

Identifier	UC-4	
Name	View item	
Summary	This use case describe how a customer view stock in the inventory.	
Priority	High	
Actors	Customer	
Pre-condition(s)	System is online	
Post-condition(s)	Display Stock of every item in the inventory	
Typical Course of Action		
S#	Actor Action	System Response
1		Displays menu.
2	Selects View item option either by category, by name or by price.	
3		Displays items either by category, by name or by price.

<b>Identifier</b>	UC-5	
<b>Name</b>	View item by price	
<b>Summary</b>	This use case describe how a customer view stock in the inventory filtered by price.	
<b>Priority</b>	High	
<b>Actors</b>	Customer	
<b>Pre-condition(s)</b>	System is online	



<b>Post-condition(s)</b>		Displays item matching the price and waits for further instruction.
<b>Typical Course of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>1</b>		Displays options to search
<b>2</b>	Select view item by price option	
<b>3</b>		Prompts for price
<b>4</b>	Enters price.	
<b>5</b>		Displays all the items matching the price entered.
<b>Alternate Course(s) of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>7</b>	Enters price.	
<b>8</b>		Displays message " No item matching the price"
<b>9</b>		Go to step 3.

Identifier	UC-6	
Name	View item by name	
Summary	This use case describe how a customer view stock in the inventory filtered by name.	
Priority	High	
Actors	Customer	
Pre-condition(s)	System is online	
Post-condition(s)	Displays item matching the name and waits for further instruction.	
Typical Course of Action		
S#	Actor Action	System Response
1		Displays options to search
2	Select view item by name option	
3		Prompts for name
4	Enters name.	
5		Displays all the items matching the name entered.
Alternate Course(s) of Action		

S#	Actor Action	System Response
6	Enters name.	
7		Displays message " No item matching the name"
8		Go to step 3.

Identifier	UC-7	
Name	View item by category	
Summary	This use case describe how a customer view stock in the inventory filtered by category.	
Priority	High	
Actors	Customer	
Pre-condition(s)	System is online	
Post-condition(s)	Displays item matching the category and waits for further instruction.	
Typical Course of Action		
S#	Actor Action	System Response
1		Displays options to search
2	Select view item by category option	
3		Prompts for category
4	Enters category.	
5		Displays all the items matching the category entered.
Alternate Course(s) of Action		
S#	Actor Action	System Response
6	Enters category.	
7		Displays message " No item matching the category"
8		Go to step 3.

<b>Identifier</b>	UC-8
<b>Name</b>	Modify Item
<b>Summary</b>	The admin can modify the items present in the stock. New items can be added. Existing items can be deleted and their quantity can also be modified.
<b>Priority</b>	High
<b>Actors</b>	Admin

<b>Pre-condition(s)</b>	System is waiting for instructions.
<b>Post-condition(s)</b>	Changes in the items are saved and the system waits for further instructions.

#### Typical Course of Action

S#	Actor Action	System Response
1	The admin provides his login details.	
2		The system checks these details and logs the admin in.
3	The admin selects either to add a new item or change the stock of any existing item.	
4		The system asks the admin the details needed.
5	The admin provides these details.	
6		The system checks these details and asks the admin to confirm the action.
7	The admin confirms the action.	
8		The system saves the changes made by the admin.

#### Alternate Course(s) of Action

S#	Actor Action	System Response
9	The log in details provided by the user are not correct.	
10		The system displays an error message and asks the user to re-enter log in details.
11	The parameters provided for modifying the items are inappropriate.	
12		The system displays an error message and asks the user to re-enter the parameters.
13	The user cancels the action.	
14		The system cancels the modification action.

<b>Identifier</b>	UC-9
<b>Name</b>	Add new item
<b>Summary</b>	The admin provides details of a new item and this item is added to the system.
<b>Priority</b>	High
<b>Actors</b>	Admin

<b>Pre-condition(s)</b>		System is waiting for instructions.
<b>Post-condition(s)</b>		Changes in the items are saved and the system waits for further instructions.
<b>Typical Course of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>1</b>	The admin provides his login details.	
<b>2</b>		The system checks these details and logs the admin in.
<b>3</b>	The admin selects to add a new item.	
<b>4</b>		The system asks the admin the details of the item to be added.
<b>5</b>	The admin enters these details.	
<b>6</b>		The system checks these details and asks the admin to confirm the action.
<b>7</b>	The admin confirms the action.	
<b>8</b>		The system saves the changes made by the admin.
<b>Alternate Course(s) of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>9</b>	The log in details provided by the user are not correct.	
<b>10</b>		The system displays an error message and asks the user to re-enter log in details.
<b>11</b>	The parameters provided for the action are inappropriate.	
<b>12</b>		The system displays an error message and asks the user to re-enter the parameters.
<b>13</b>	The user cancels the action.	
<b>14</b>		The system cancels the addition action.

<b>Identifier</b>	UC-10
<b>Name</b>	Delete Item
<b>Summary</b>	The admin can delete an existing item from the system.
<b>Priority</b>	High
<b>Actors</b>	Admin
<b>Pre-condition(s)</b>	System is waiting for instructions.
<b>Post-condition(s)</b>	Changes in the items are saved and the system waits for further instructions.
<b>Typical Course of Action</b>	

<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>1</b>	The admin provides his login details.	
<b>2</b>		The system checks these details and logs the admin in.
<b>3</b>	The admin selects to delete the existing item.	
<b>4</b>		The system asks the admin the id of the item.
<b>5</b>	The admin enters the id.	
<b>6</b>		The system checks the id and asks the admin to confirm the action.
<b>7</b>	The admin confirms the action.	
<b>8</b>		The system deletes that item.

#### **Alternate Course(s) of Action**

<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>9</b>	The log in details provided by the user are not correct.	
<b>10</b>		The system displays an error message and asks the user to re-enter log in details.
<b>11</b>	The id provided for the action are inappropriate.	
<b>12</b>		The system displays an error message and asks the user to re-enter the id.
<b>13</b>	The user cancels the action.	
<b>14</b>		The system cancels the addition action.

Identifier	UC-11	
Name	Add stock of existing item	
Summary	The admin provides the details of the item whose stock is to be added and the system updates its stock.	
Priority	High	
Actors	Admin	
Pre-condition(s)	System is waiting for instructions.	
Post-condition(s)	Changes in the items are saved and the system waits for further instructions.	
Typical Course of Action		
S#	Actor Action	System Response
1	The admin provides his login details.	

<b>2</b>		The system checks these details and logs the admin in.
<b>3</b>	The admin selects to add the stock of an existing item.	
<b>4</b>		The system asks the admin the id of the item and the stock to be added.
<b>5</b>	The admin enters these details.	
<b>6</b>		The system checks these details and asks the admin to confirm the action.
<b>7</b>	The admin confirms the action.	
<b>8</b>		The system saves the changes made by the admin.
<b>Alternate Course(s) of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>9</b>	The log in details provided by the user are not correct.	
<b>10</b>		The system displays an error message and asks the user to re-enter log in details.
<b>11</b>	The parameters provided for the action are inappropriate.	
		The system displays an error message and asks the user to re-enter the parameters.
<b>12</b>	The user cancels the action.	
<b>13</b>		The system cancels the addition action.

<b>Identifier</b>		UC-12
<b>Name</b>		Modify Category
<b>Summary</b>		The admin can modify the product categories i.e. new categories can be added and existing categories can be deleted.
<b>Priority</b>		High
<b>Actors</b>		Admin
<b>Pre-condition(s)</b>		System is waiting for instructions.
<b>Post-condition(s)</b>		Changes made in the categories are saved and the system waits for further instructions.
<b>Typical Course of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>1</b>	The admin provides his login details.	

<b>2</b>		The system checks these details and logs the admin in.
<b>3</b>	The admin selects to add or delete a category.	
<b>4</b>		The system asks for the relevant details.
<b>5</b>	The admin provides these details.	
<b>6</b>		The system checks these details and asks the admin to confirm the action.
<b>7</b>	The admin confirms the action.	
<b>8</b>		The system saves the changes made by the admin.
<b>Alternate Course(s) of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>9</b>	The log in details provided by the user are not correct.	
<b>10</b>		The system displays an error message and asks the user to re-enter log in details.
<b>11</b>	The parameters provided for modifying the categories are inappropriate.	
<b>12</b>		The system displays an error message and asks the user to re-enter the parameters.
<b>13</b>	The user cancels the action.	
<b>14</b>		The system cancels the modification action.

Identifier	UC-13	
Name	Add Category	
Summary	The admin can add new categories in the system.	
Priority	High	
Actors	Admin	
Pre-condition(s)	System is waiting for instructions.	
Post-condition(s)	Changes made in the categories are saved and the system waits for further instructions.	
Typical Course of Action		
S#	Actor Action	System Response
1	The admin provides his login details.	

<b>2</b>		The system checks these details and logs the admin in.
<b>3</b>	The admin selects to add a new category.	
<b>4</b>		The system asks for the name of new category.
<b>5</b>	The admin provides the name.	
<b>6</b>		The system checks if the name does not already exist and then asks the admin to confirm the action.
<b>7</b>	The admin confirms the action.	
<b>8</b>		The system saves the changes made by the admin.
<b>Alternate Course(s) of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>9</b>	The log in details provided by the user are not correct.	
<b>10</b>		The system displays an error message and asks the user to re-enter log in details.
<b>11</b>	The name provided for adding the category is already present.	
<b>12</b>		The system displays an error message and asks the user to re-enter the name.
<b>13</b>	The user cancels the action.	
<b>14</b>		The system cancels the add category action.

Identifier	UC-14	
Name	Delete Category	
Summary	The admin can delete an existing category from the system.	
Priority	High	
Actors	Admin	
Pre-condition(s)	System is waiting for instructions.	
Post-condition(s)	Changes made in the categories are saved and the system waits for further instructions.	
Typical Course of Action		
S#	Actor Action	System Response
1	The admin provides his login details.	
2		The system checks these details and logs the admin in.



<b>3</b>	The admin selects to delete an existing category.	
<b>4</b>		The system asks for the name of category to be deleted.
<b>5</b>	The admin provides the name.	
<b>6</b>		The system checks if the name exists and then asks the admin to confirm the action.
<b>7</b>	The admin confirms the action.	
<b>8</b>		The system deletes the category and all items present in that category.

#### **Alternate Course(s) of Action**

<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>9</b>	The log in details provided by the user are not correct.	
<b>10</b>		The system displays an error message and asks the user to re-enter log in details.
<b>11</b>	The name provided for deleting the category is not present.	
<b>12</b>		The system displays an error message and asks the user to re-enter the name.
<b>13</b>	The user cancels the action.	
<b>14</b>		The system cancels the deletion of the category.

<b>Identifier</b>	UC-15
<b>Name</b>	Process order
<b>Summary</b>	The customer arrives at the counter with the order of the items to be purchased. The cashier calculates the bill and the customer make payment for his/her order.
<b>Priority</b>	Medium
<b>Actors</b>	Customer, Cashier
<b>Pre-condition(s)</b>	The system is waiting for instructions.
<b>Post-condition(s)</b>	The system processes the order, updates stock and starts waiting for instructions.

#### **Typical Course of Action**

<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>1</b>	The customer reaches the counter.	
<b>2</b>		The system is waiting for instructions.

<b>3</b>	The cashier selects the option to process a new order.	
<b>4</b>		The system asks the cashier the items to be purchased and their quantities.
<b>5</b>	The cashier enters these details as per the customer demands.	
<b>6</b>		The system checks if the required quantity of each item is less than or equal to the stock of that item available and asks the cashier to confirm the action.
<b>7</b>	The cashier confirms the action.	
<b>8</b>		The system generates the bill by adding the prices of all items purchased. The system checks if any discounts are available on any item. These discounts are applied (if any). The system checks if the customer is a member. If he/she is, additional 5% discount is applied.
<b>9</b>	The cashier asks the customer to make payments.	
<b>10</b>		The system is waiting for cashier to confirm order.
<b>11</b>	The customer makes payments.	
<b>12</b>		The system is waiting for cashier to confirm order.
<b>13</b>	The cashier confirms the order	
<b>14</b>		The system updates the stock of items purchased.
<b>15</b>	The cashier checks if any change is due.	
<b>16</b>		The system is waiting for new transaction.
<b>17</b>	The cashier gives the change to the customer (if any).	
<b>18</b>		The system is waiting for new transaction.

#### **Alternate Course(s) of Action**

<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>19</b>	The quantity to be purchased of any item entered by the cashier as per customer demand exceeds the available stock.	
<b>20</b>		The system displays an error message and asks the user to re-enter the quantity of the items.
<b>21</b>	The parameters provided for the action are inappropriate.	
<b>22</b>		The system displays an error message and asks the user to re-enter the parameters.

<b>23</b>	The cashier cancels the action.	
<b>24</b>		The system cancels the generate bill action.

<b>Identifier</b>		UC-16
<b>Name</b>		Modify member
<b>Summary</b>		Admin can add or remove a staff member
<b>Priority</b>		High
<b>Actors</b>		Admin
<b>Pre-condition(s)</b>		In order to add a staff member admin should check he/she is not a staff member already as every member has a unique id.
<b>Post-condition(s)</b>		After adding or removing a staff member, the list is updated.
<b>Typical Course of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
1	Modifies list i.e. add or delete a staff member	
2		Adds or remove member if possible.
3		Updates list.
<b>Alternate Course(s) of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
4	Adds a member with wrong id.	
5		Displays error message "staff member id already exists."
6	Deletes a member with wrong id.	
7		Displays error message "staff member id does not exist."
8		

<b>Identifier</b>		UC-17
<b>Name</b>		Add member
<b>Summary</b>		Admin can add a staff member
<b>Priority</b>		High
<b>Actors</b>		Admin

<b>Pre-condition(s)</b>		In order to add a staff member admin should check he/she is not a staff member already as every member has a unique id.
<b>Post-condition(s)</b>		After adding a staff member, the list is updated.
<b>Typical Course of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>1</b>	Adds a staff member	
<b>2</b>		System update list if possible.
<b>Alternate Course(s) of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>3</b>	Adds a member with wrong id.	
<b>4</b>		Displays error message "staff member id already exists."

Identifier	UC-18	
Name	Delete member	
Summary	Admin can remove a staff member	
Priority	High	
Actors	Admin	
Pre-condition(s)	In order to remove a staff member, he/she should be in list.	
Post-condition(s)	After removing a staff member, the list is updated.	
Typical Course of Action		
S#	Actor Action	System Response
1	Removes a staff member	
2		Removes member if possible.
3		Updates list.
Alternate Course(s) of Action		
S#	Actor Action	System Response
4	Enters wrong id to remove.	
5		Displays error message "staff member with such id does not exist."

<b>Identifier</b>	UC-19
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<b>Name</b>	Generate reports	
<b>Summary</b>	Admin can generate reports on total sales or purchase of items in stock at any time	
<b>Priority</b>	High	
<b>Actors</b>	Admin	
<b>Pre-condition(s)</b>	Admin should have access to each and every sales and purchase record.	
<b>Post-condition(s)</b>	System waits for further instructions.	
<b>Typical Course of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>1</b>	Prompts system to give all records	
<b>2</b>		Gives required information
<b>3</b>	Generates a detailed report on sales or purchase.	

Identifier	UC-20	
Name	Generate purchase reports	
Summary	Admin can generate reports on total sales of items in stock at any time	
Priority	High	
Actors	Admin	
Pre-condition(s)	Admin should have access to each and every purchase record.	
Post-condition(s)	System waits for further instructions.	
Typical Course of Action		
S#	Actor Action	System Response
1	Prompts system to give purchase records	
2		Gives required information
3	Generates a detailed report on sales.	

<b>Identifier</b>	UC-21	
<b>Name</b>	Generate sales reports	
<b>Summary</b>	Admin can generate reports on total sales of items in stock at any time	
<b>Priority</b>	High	

<b>Actors</b>		Admin
<b>Pre-condition(s)</b>		Admin should have access to each and every sales record.
<b>Post-condition(s)</b>		System waits for further instructions.
<b>Typical Course of Action</b>		
<b>S#</b>	<b>Actor Action</b>	<b>System Response</b>
<b>1</b>	Asks system to give sales records.	
<b>2</b>		Gives required information
<b>3</b>	Generates a detailed report on sales.	

Identifier	UC-25	
Name	Offer Discounts	
Summary	Offering discounts to customers by minimizing the prices of items in stock.	
Priority	High	
Actors	Admin	
Pre-condition(s)	Item should be in stock.	
Post-condition(s)	Stock is updated.	
Typical Course of Action		
S#	Actor Action	System Response
1	Searches for the item.	
2		Prompts if available.
3	Changes price.	
Alternate Course(s) of Action		
S#	Actor Action	System Response
4	Searches for the item not in list.	
5		Prompts "Not available".