Project Title **:** Shop Inventory Management System

Semester : Fall 2022

Course : CSE215

Section : 09

Date : 23/12/2022

Group Number : 14

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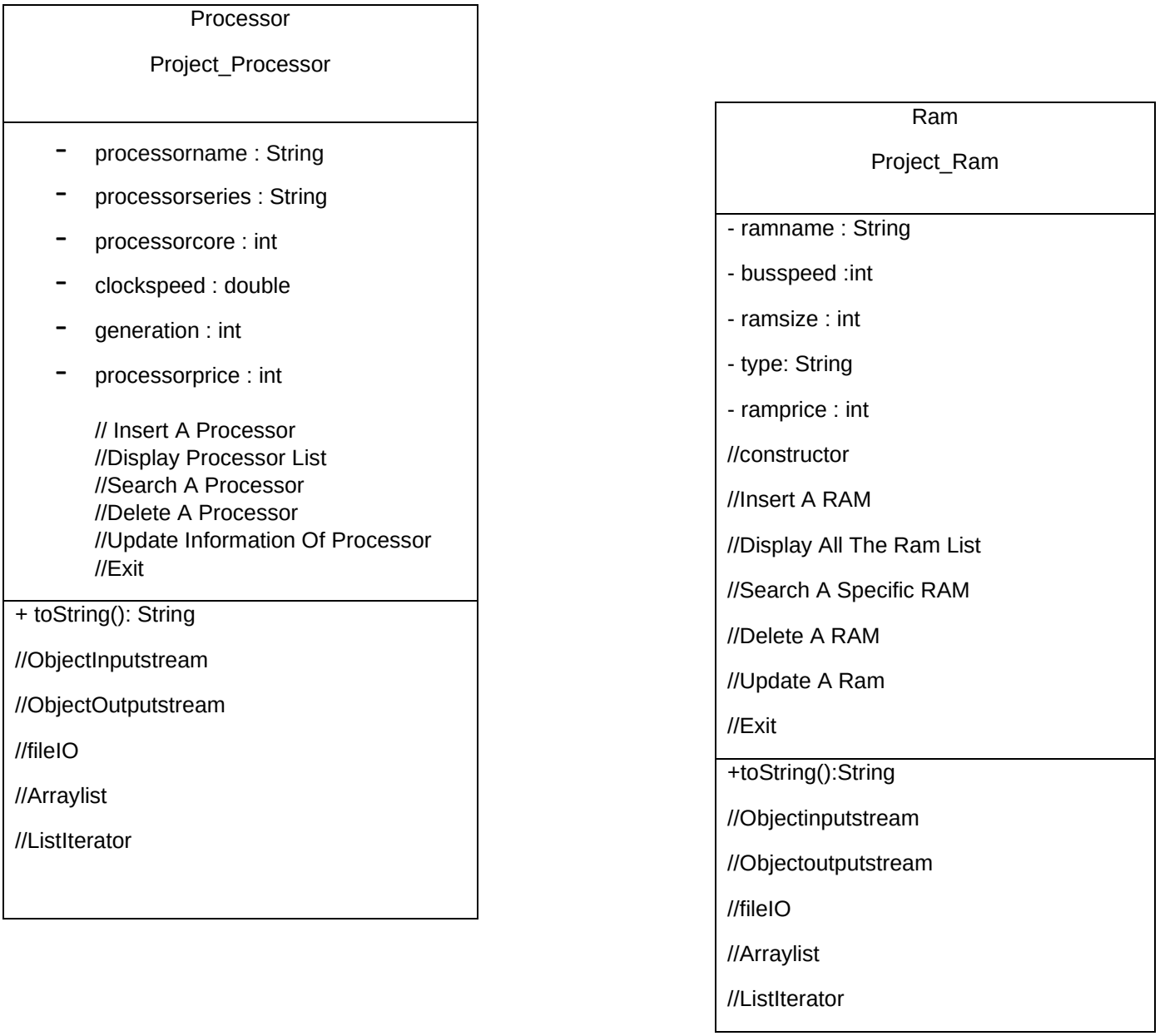
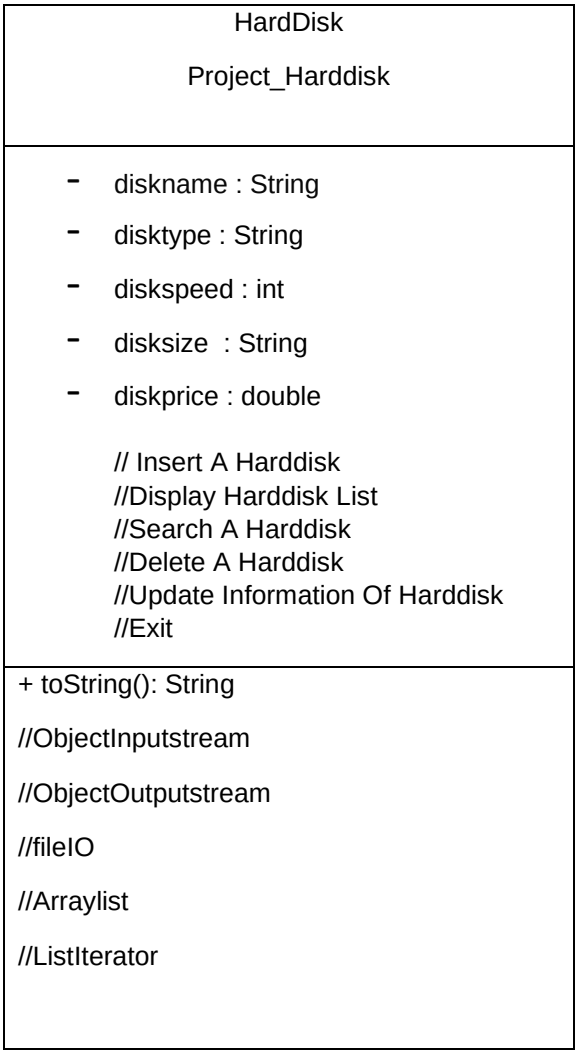
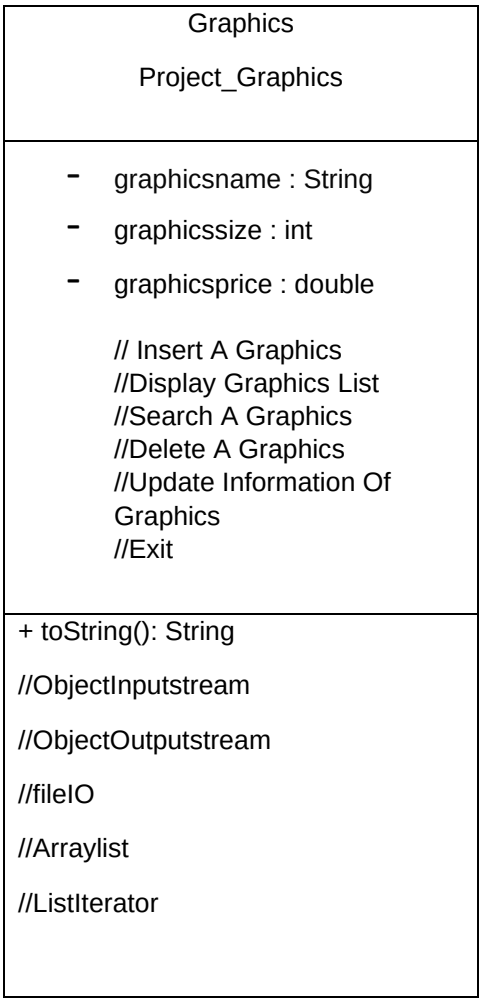
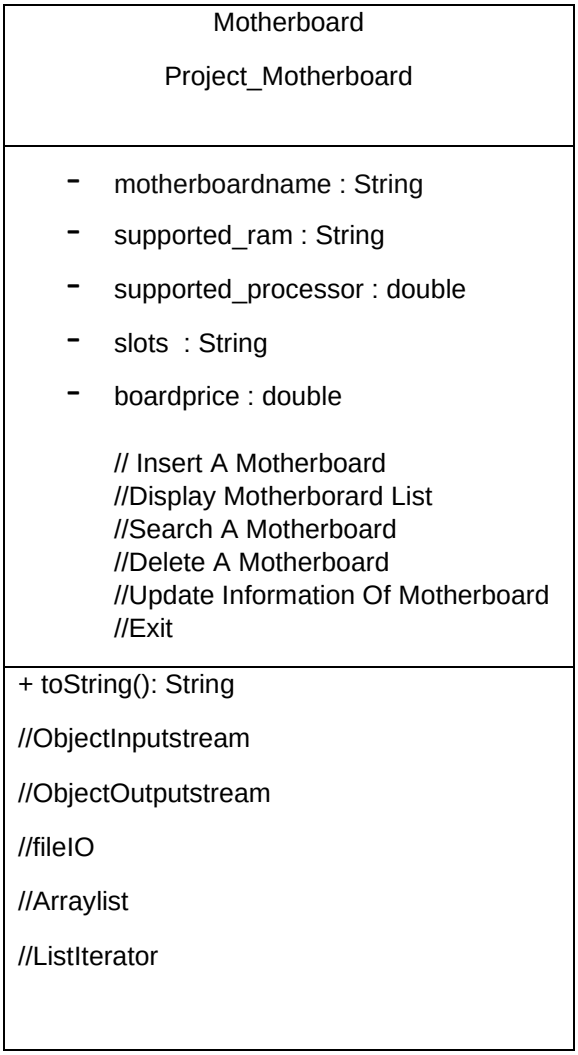
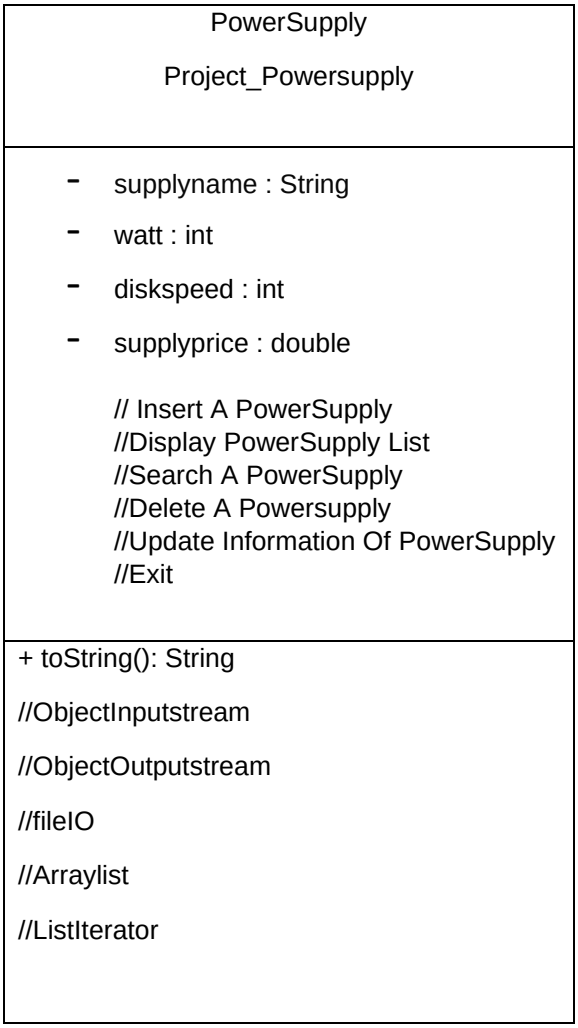
UML Diagram:

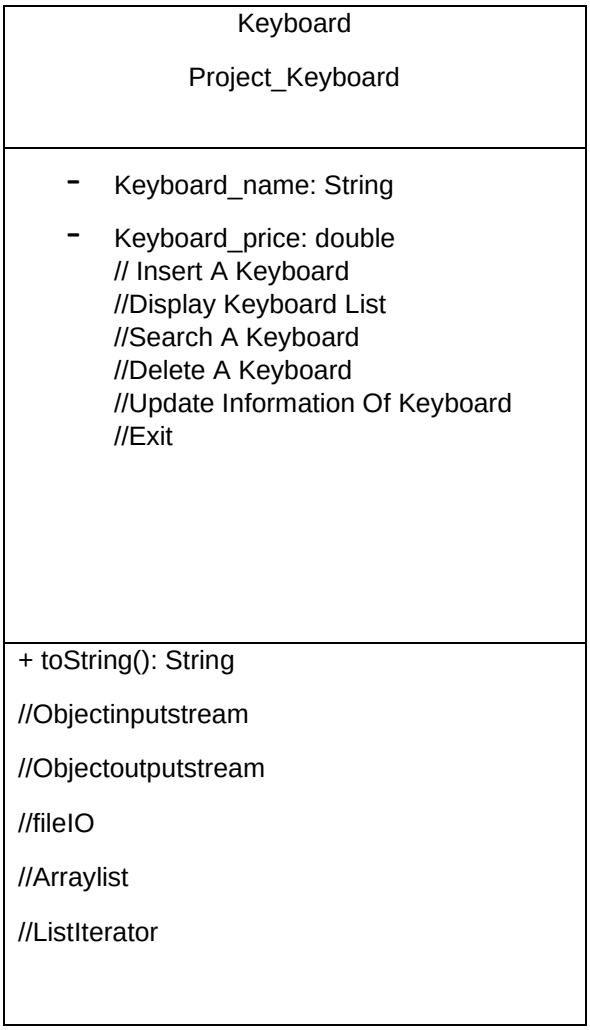

Processor
Project_Processor
- processorname : String
- processorseries : String
- processorcore : int
- clockspeed : double
- generation : int
- processorprice : int
// Insert A Processor
//Display Processor List
//Search A Processor
//Delete A Processor
//Update Information Of Processor
//Exit
+ toString(): String
//ObjectInputstream
//ObjectOutputstream
//fileIO
//Arraylist
//ListIterator
Ram
Project_Ram
- ramname : String
- busspeed :int
- ramsize : int
- type: String
- ramprice : int
//constructor
//Insert A RAM
//Display All The Ram List
//Search A Specific RAM
//Delete A RAM
//Update A Ram
//Exit
+toString():String
//Objectinputstream
//Objectoutputstream
//fileIO
//Arraylist
//ListIterator

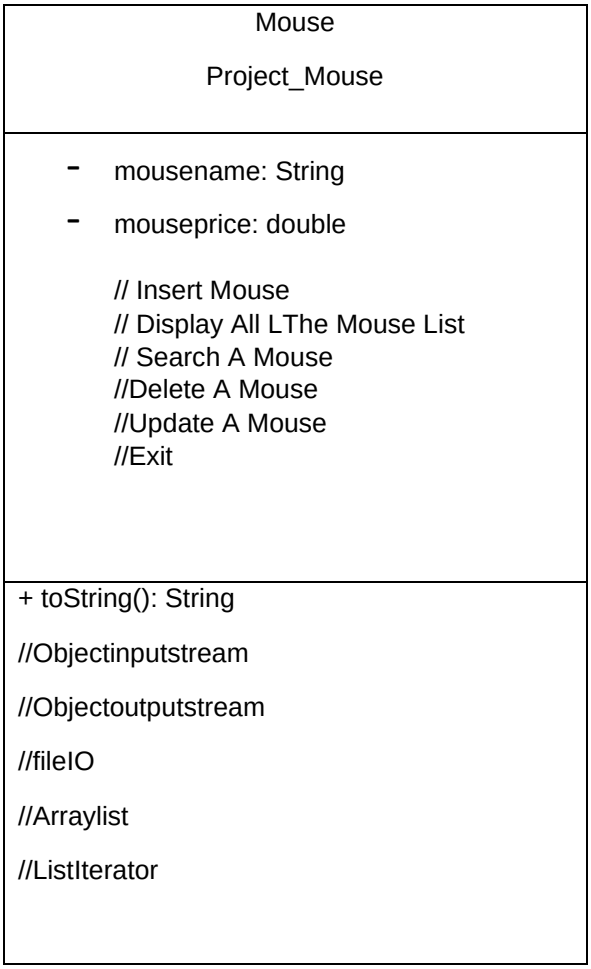

HardDisk
Project_Harddisk
- diskname : String
- disktype : String
- diskspeed : int
- disksize : String
- diskprice : double
// Insert A Harddisk
//Display Harddisk List
//Search A Harddisk
//Delete A Harddisk
//Update Information Of Harddisk
//Exit
+ toString(): String
//ObjectInputstream
//ObjectOutputstream
//fileIO
//Arraylist
//ListIterator

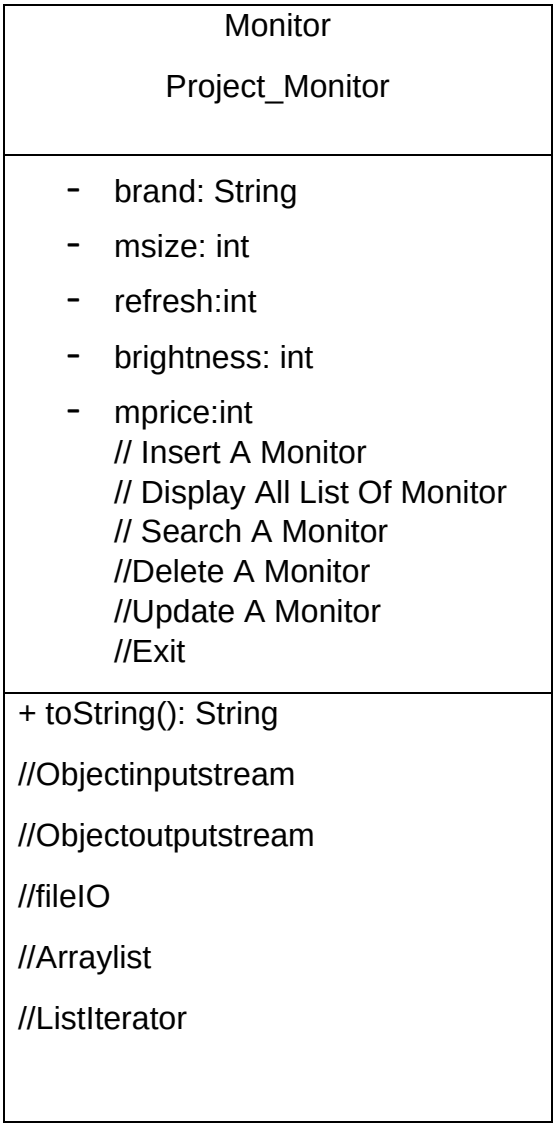

Graphics
Project_Graphics
- graphicsname : String
- graphicssize : int
- graphicsprice : double
// Insert A Graphics
//Display Graphics List
//Search A Graphics
//Delete A Graphics
//Update Information Of Graphics
//Exit
+ toString(): String
//ObjectInputstream
//ObjectOutputstream
//fileIO
//Arraylist
//ListIterator


Motherboard
Project_Motherboard
- motherboardname : String
- supported_ram : String
- supported_processor : double
- slots : String
- boardprice : double
// Insert A Motherboard
//Display Motherborard List
//Search A Motherboard
//Delete A Motherboard
//Update Information Of Motherboard
//Exit
+ toString(): String
//ObjectInputstream
//ObjectOutputstream
//fileIO
//Arraylist
//ListIterator


PowerSupply
Project_Powersupply
- supplyname : String
- watt : int
- diskspeed : int
- supplyprice : double
// Insert A PowerSupply
//Display PowerSupply List
//Search A PowerSupply
//Delete A Powersupply
//Update Information Of PowerSupply
//Exit
+ toString(): String
//ObjectInputstream
//ObjectOutputstream
//fileIO
//Arraylist
//ListIterator


Keyboard
Project_Keyboard
- Keyboard_name: String
- Keyboard_price: double
// Insert A Keyboard
//Display Keyboard List
//Search A Keyboard
//Delete A Keyboard
//Update Information Of Keyboard
//Exit
+ toString(): String
//Objectinputstream
//Objectoutputstream
//fileIO
//Arraylist
//ListIterator


Mouse
Project_Mouse
- mousename: String
- mouseprice: double
// Insert Mouse
// Display All LThe Mouse List
// Search A Mouse
//Delete A Mouse
//Update A Mouse
//Exit
+ toString(): String
//Objectinputstream
//Objectoutputstream
//fileIO
//Arraylist
//ListIterator


Monitor
Project_Monitor
- brand: String
- msize: int
- refresh:int
- brightness: int
- mprice:int
// Insert A Monitor
// Display All List Of Monitor
// Search A Monitor
//Delete A Monitor
//Update A Monitor
//Exit
+ toString(): String
//Objectinputstream
//Objectoutputstream
//fileIO
//Arraylist
//ListIterator

Description of Each Classes And Objects:

In all nine class we use object input stream,object output stream,iterator.

Things to know :

Serialization: Serialization is an interface included in Java Library. The main thing serialization do is to convert the object as byte code stream and writes the data in the stream. This is achieved by the ObjectOutputStream. Deserialization does the exact opposite of serialization. ObjectInputStream turns the byte code into a more readable character while loading it in the program.

Object Input stream: Creates an ObjectInputStream that reads from the specified InputStream. A serialization stream header is read from the stream and verified. This constructor will block until the corresponding ObjectOutputStream has written and flushed the header.

Object output stream: Creates an ObjectOutputStream that writes to the specified OutputStream. This constructor writes the serialization stream header to the underlying stream; callers may wish to flush the stream immediately to ensure that constructors for receiving ObjectInputStreams will not block when reading the header.

Iterator: An Iterator is an object that can be used to loop through collections, like ArrayList and HashSet. It is called an "iterator" because "iterating" is the technical term for looping.

Class:

MainProject : This is the main class which can help to access different class to access specific product and help to perform different function such as add,delete,display,update,search.

Project_GraphicsCard : This class works on the graphics card. The class perform many functionalities. It has “add function” which can add new product into file and save them all.”display List” option can show all the product details saved in the file.”search” option can help one to find certain items as per his choice.By using “delete “function one can delete specific item from the list saved in file.”update”function can help one to update any item from the list.

Project_Harddisk : This class perform many harddisk functions. It has “add function” which can add new product into file and save them all.”display List” option can show all the product details saved in the file.”search” option can help one to find certain items as per his choice.By using “delete “function one can delete specific item from the list saved in file.”update”function can help one to update any item from the list.

Project_keyboard : This class perform keyboard functions. It has “add function” which can add new product into file and save them all.”display List” option can show all the product details saved in the file.”search” option can help one to find certain items as per his choice.By using “delete “function one can delete specific item from the list saved in file.”update”function can help one to update any item from the list.

Project_Monitor : This class perform monitor functions. It has “add function” which can add new product into file and save them all.”display List” option can show all the product details saved in the file.”search” option can help one to find certain items as per his choice.By using “delete “function one can delete specific item from the list saved in file.”update”function can help one to update any item from the list.Project_MOtherBoard:

Project_Mouse : This class work on mouse. It has “add function” which can add new product into file and save them all.”display List” option can show all the product details saved in the file.”search” option can help one to find certain items as per his choice.By using “delete “function one can delete specific item from the list saved in file.”update”function can help one to update any item from the list.Project_PowerSupply :

Project_Procsessor : This class wroks on processor. It has “add function” which can add new product into file and save them all.”display List” option can show all the product details saved in the file.”search” option can help one to find certain items as per his choice.By using “delete “function one can delete specific item from the list saved in file.”update”function can help one to update any item from the list.

Project_Ram : This class performs on RAM. It has “add function” which can add new product into file and save them all.”display List” option can show all the product details saved in the file.”search” option can help one to find certain items as per his choice.By using “delete “function one can delete specific item from the list saved in file.”update”function can help one to update any item from the list.

Features:

This project is mainly used for the core level of a store, aka the admin or store owner, to check and arrange all the store’s products. There is no customer experience. Mainly, in this project, the software is used for a computer store’s warehouse. The computer store can have many products such as Processors, RAM, Graphics cards, and peripherals for the computer to run. Each product has to be divided into categories for arranging them. After the login page, this software has some subcategories for all the products. This project is inspired by the real-world usage we see for the store manager or storekeeper in a store.

Example:

For a motherboard, if the user tries to enter the motherboard option, there are five options: insert a motherboard, display the list of the motherboard, search for a motherboard, remove a motherboard, and update a motherboard’s information. Suppose an admin wants to stock a motherboard in the store. In that case, he has to undergo some of the specific requirements for any time display like motherboard name, motherboard model, motherboard ram slots, and motherboard processor supporting type for verifying and achieving the result of search anytime and anywhere. He / She can also show the available products in the store by initiating a command showing all the motherboard lists. An admin can also search for a product as we see in the store. He will get to be sure that the product is available or not. Sometimes a store requires a product to be removed from the store. The product can be faulty from a hardware error or manufacturing problem. In the submenu of the motherboard, there is an option to remove the item from the list. Product specification can get needs to be updated. In the project, there is an option to edit the specification of a product.

This feature is implemented for all the product categories, such as RAM, Processor, Graphics Card, Monitor, and Disk drives like SSD or HDD.

A store warehouse can get all these requirements, so we have kept in mind that this option needs to be addressed.

Application/Usage Of The Projects:

This project will be used only for the warehouse of a shop where the shop's inventory or the products will be stored for the shop to pick and collect. The functionalities are minimal because this is a very core of the shop level. A warehouse manager will keep records by inserting the product and displaying all available products. For additional features, the manager can remove the products entered into the warehouse of a store and search for a product available in the store. Sometimes the product can get an update on a specification. So, a feature is available to update the information of a particular product by searching for the product. And all these features are implemented for a computer shop's products, such as motherboards, processors, or any computer equipment.

Limitations:

Every program has limitations. Our project also has some limitations. Described below:

1. Entering the wrong data type input, like integer instead of String, will cause the program to terminate abruptly.

2. The name of each product will have to be the same name type, just like the user inserted the product while searching for a product. Otherwise, the product cannot be found, and the program will throw a statement that the product is not found.

3. The program uses a serializable interface which means it writes data as a byte code in a text file(.txt) because of the serialization of the data. The data cannot be read from the text file. The only way for the data to be read is to load in the program by deserialization through the ObjectInputStream method. This ensures security but makes the data to be seen from the text file impossible.

4. Inserting the wrong password or username will terminate the program—no re-entry or looping to the login page.

5. If the same product name is entered for two products, the update information option will print out both two products. And will have to re-enter both product information again for clarification manually—no individual update in this case.

6. The program could be modified more, but we had to limit its functionality to a little less for the time shortage. But the project idea can be implemented through a various range of scenarios.

Future Works:

This project has so many potentials and can be turned into in various ways. The project can be a database for all types of products (not just a computer store) in every scenario. We can link the project to a user side through a shop by a user portal where the user will search for each product in the store and buy it. The billing system can be added for it. This can be implemented through a system like buying a pc (can be a class or a method). Moreover, we can also suggest a customer buy a pc with his/her desired price range following the amount inputted by the customer. This can be achieved by summing the prices for the product the customer chose and comparing it with the amount the customer inputted. We hope to work on the project later to modify it on a larger scale.