<u>Documentation for Milestone 2</u>

1. **Components of the program**

The program of Milestone 2 is a program for users to keep track and manage their IT goods inventory that contains several data fields. The whole program consists of types of file which is *Inventory.cpp* , *StoreItem.h, StoreItem.cpp and inventory.txt*.

2. **The design of the program**

The figure below indicates the user interface as the user starts to run the compiled *Inventory.cpp* , *StoreItem.h and StoreItem.cpp.*

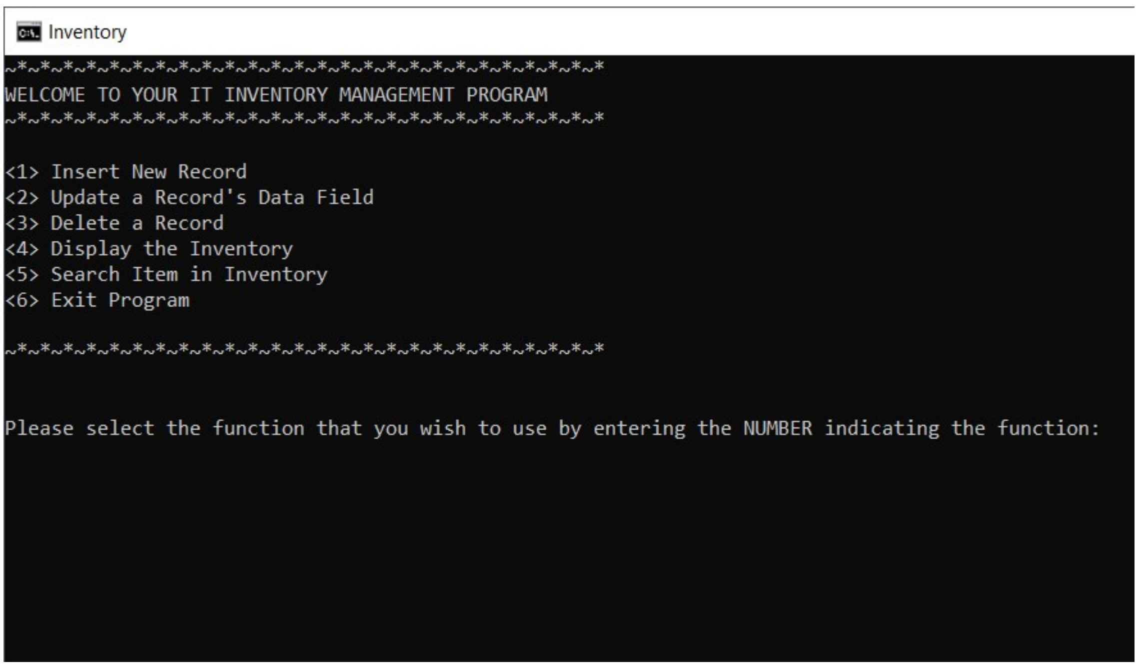


Figure 1. Main page of program

The program shows as it consists of 6 different functions which are:

- Insert a new Record for the inventory
- Update an existing Record’s data field
- Delete a record in the inventory
- Display an inventory record and its particular data field
- Search an Item in the Inventory
- Exit the program

User will be prompt to insert a number to start a function. If user entered an invalid choice, an error will be shown and the user will be prompted to insert a number again as figure shown below.

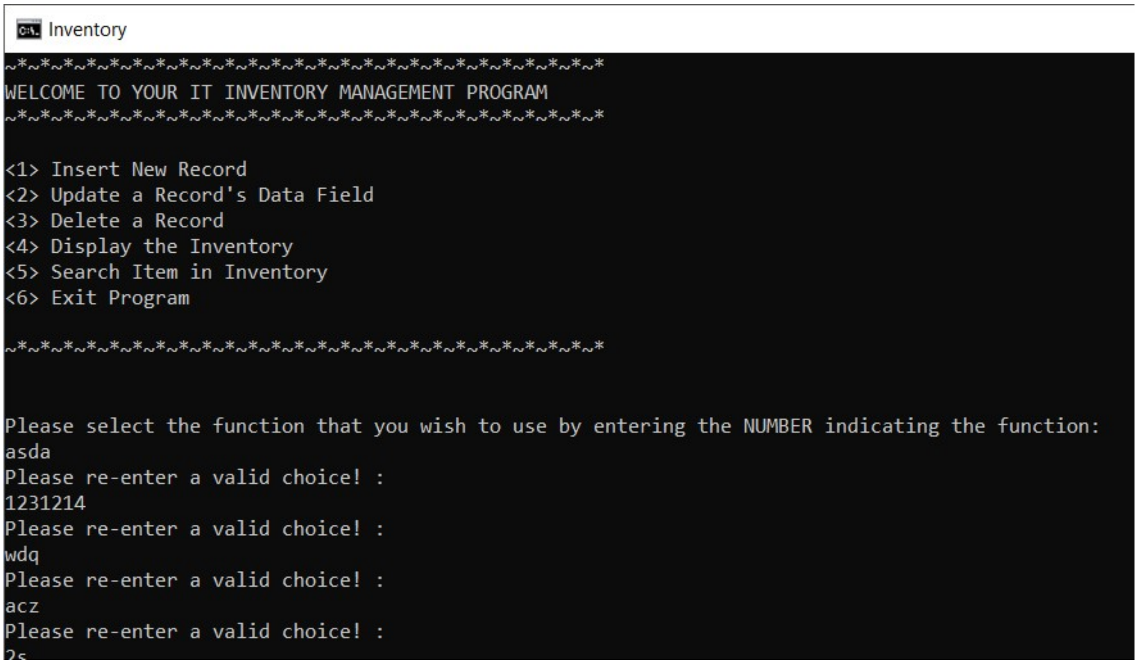


Figure 2. Error of invalid input on Main Page

2.1. Inserting a new Record

If (1) is entered, <1> will be selected and hence the user will proceed to the Insert New Record function. User will be prompted to enter several data fields of a new record to be able to save it in the inventory records. As all the data field have already been filled up with the correct format and input, then a save success message will be shown such as the figure shown below.

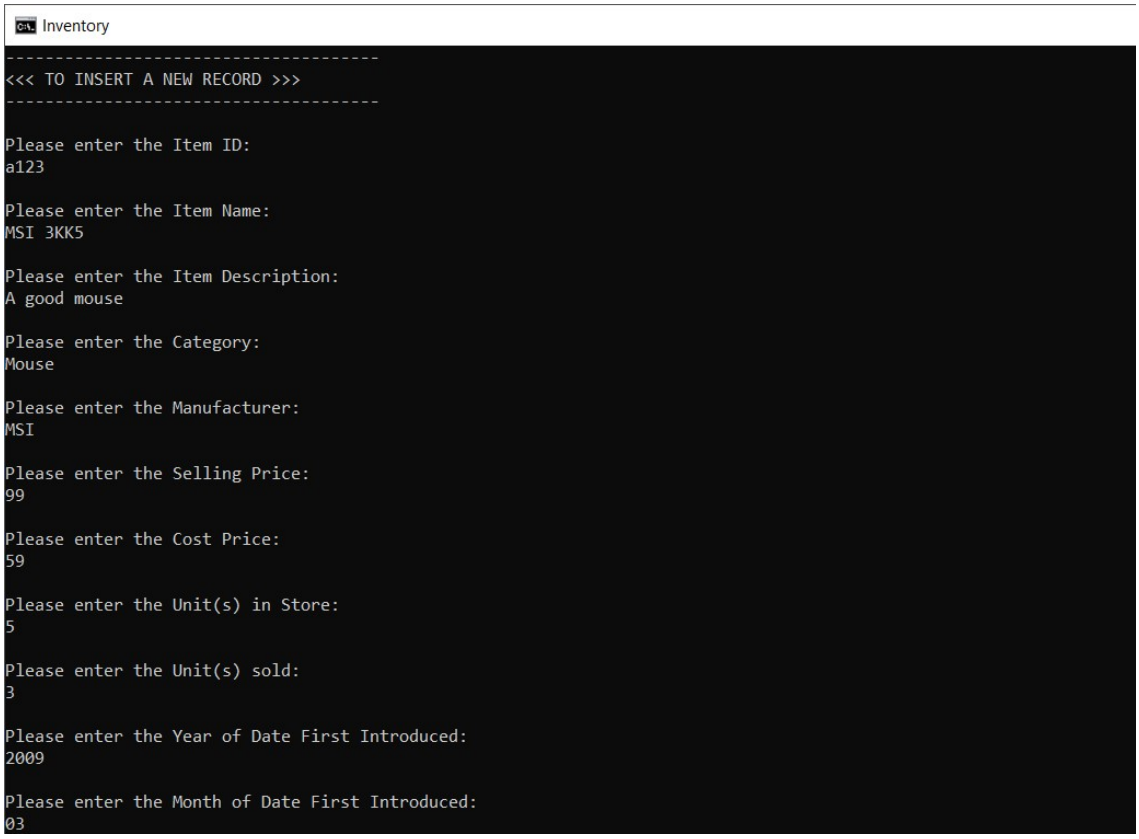


Figure 3. Insert Item successful

After inserting the item's data field, user will be prompt to choose either to return to the main page or to quit the program. The item is then saved in *inventory.txt*.

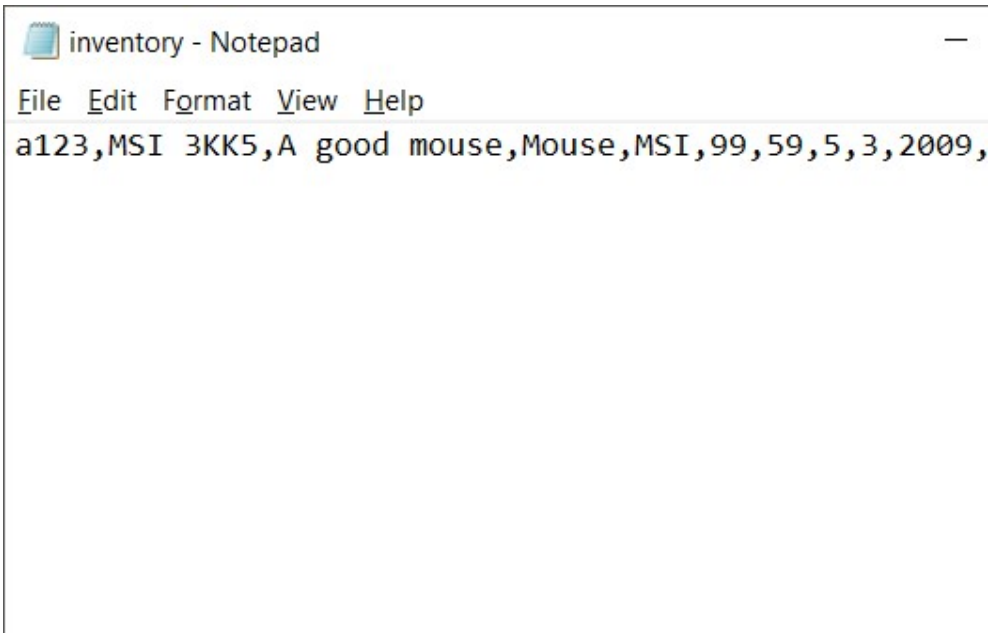


Figure 4. Item Saved in Inventory

If the item ID has already been used, the program will show a message that the Item ID has been used and will prompt user to re-enter a whole new record all over again.

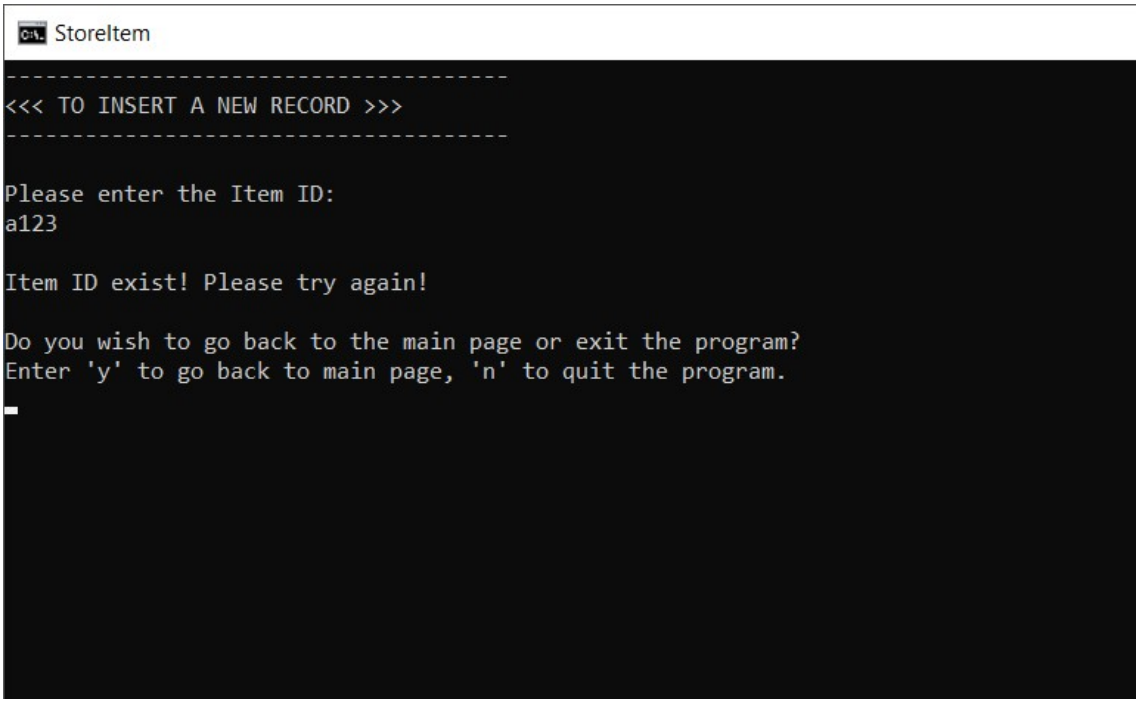


Figure 5.Item ID already used

2.2. Update a Record's Data Field

If (2) is entered, <2> will be selected and user will be prompted to update a Record's Data Field. User can then choose to update either an entire record or update only a selected data field of a record.

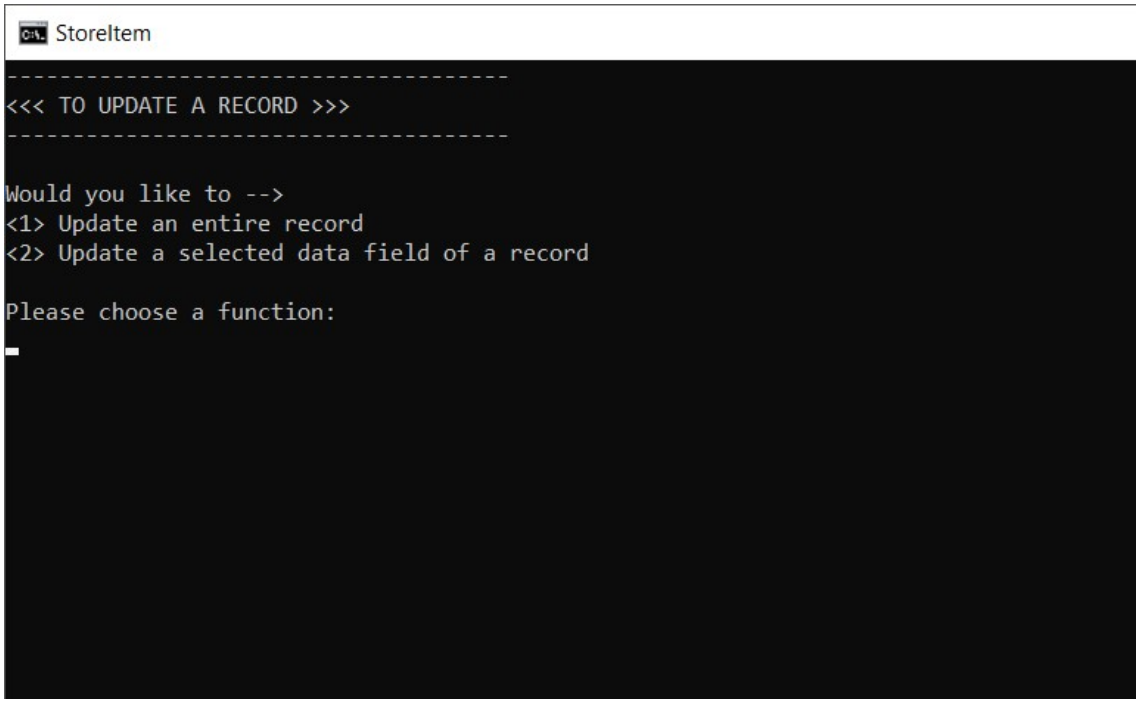


Figure 6. Update Item Function

When <1> which is an option for user to update an entire record is chosen, the user will be prompted to enter the Item ID and then re-entering every data field. When it is successful, item will be updated in *inventory.txt.* User will then be prompted whether to exit to the main page or to exit the program.

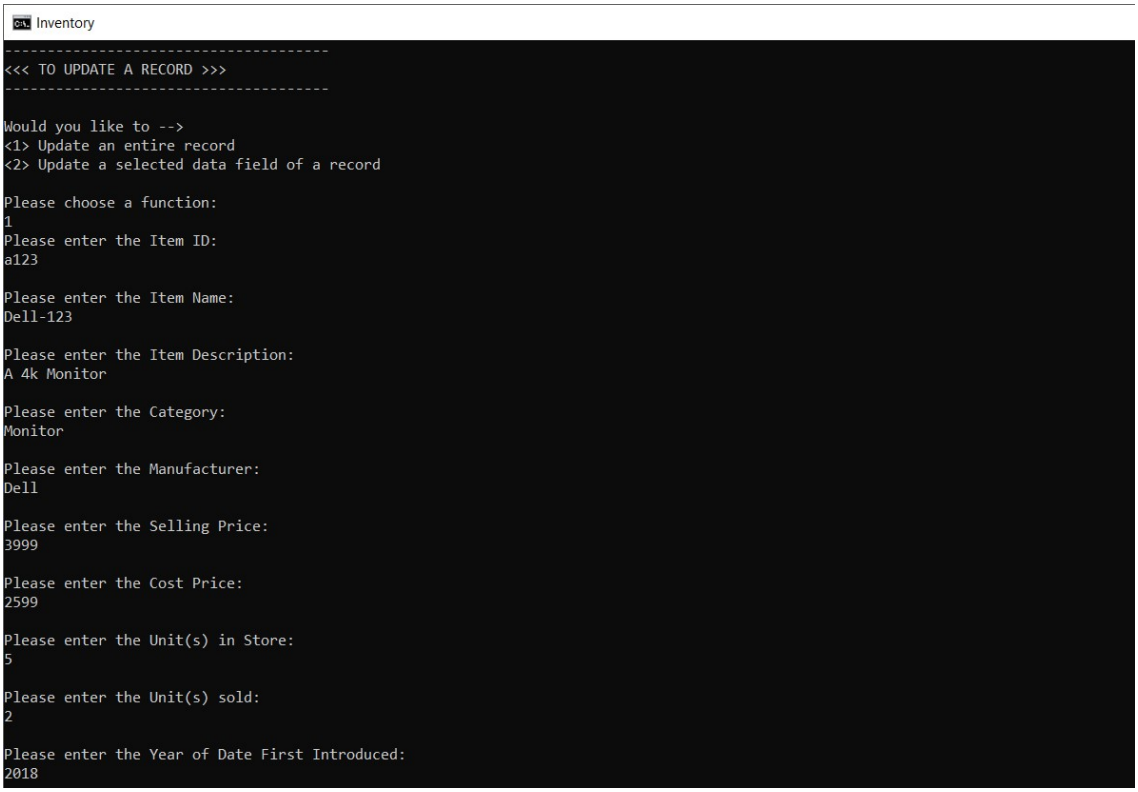


Figure 7. Update item successfully

Item is successfully updated as shown in *inventory.txt*.

Figure 8. Item Successfully Updated

If the item ID enter does not exist, then an error message will be shown and user will be asked to either restart the function or proceed to " proceed to main page or exit program" function. If user selected to restart function, user will be prompted to enter an Item ID.

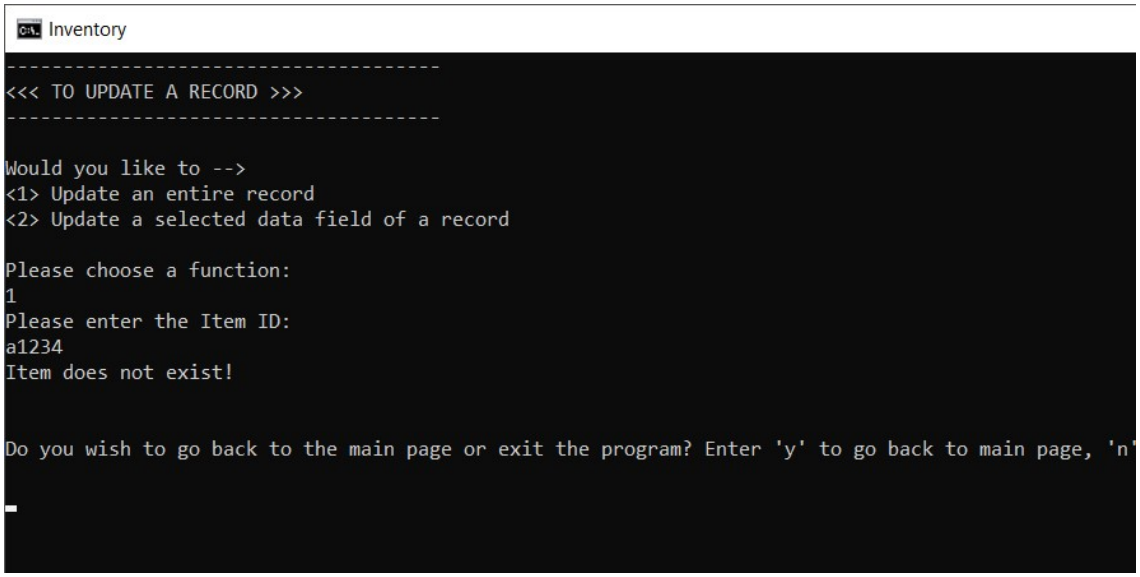


Figure 9. Item ID not found

When <2> which is an option for user to update a specific data fields of a record as shown in Figure 6 is chosen, the user will be prompted to select which Item to proceed by asking for Item ID from the user first. Then, the user can choose which data field would the user want to update.

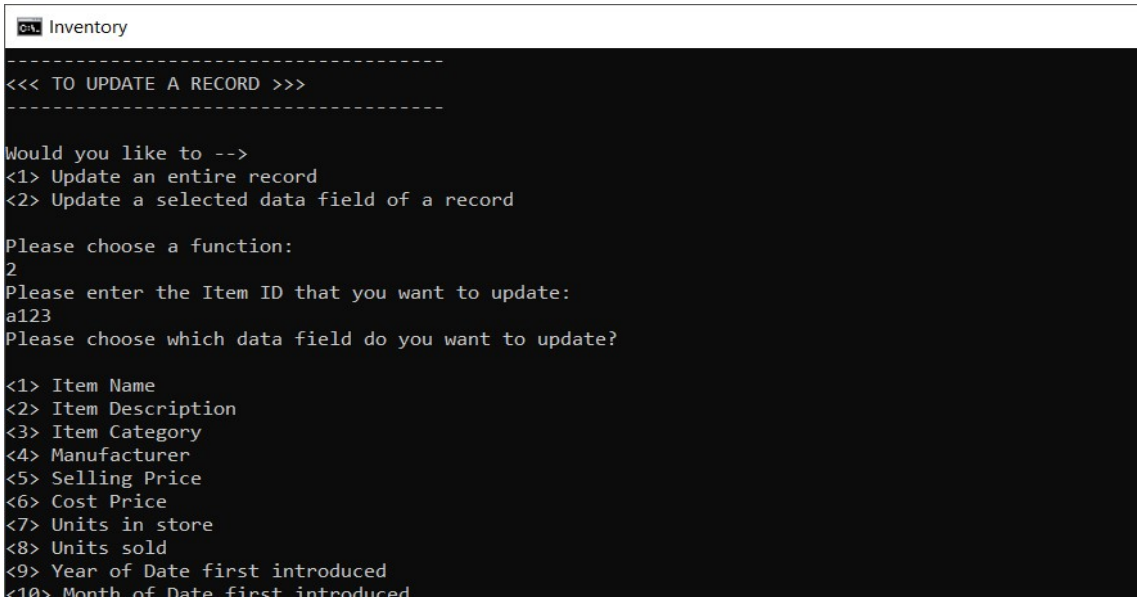


Figure10 Update specific data field

For example, if <1> is chosen which is Item Name, user will be prompted to input a new value for Item Name.

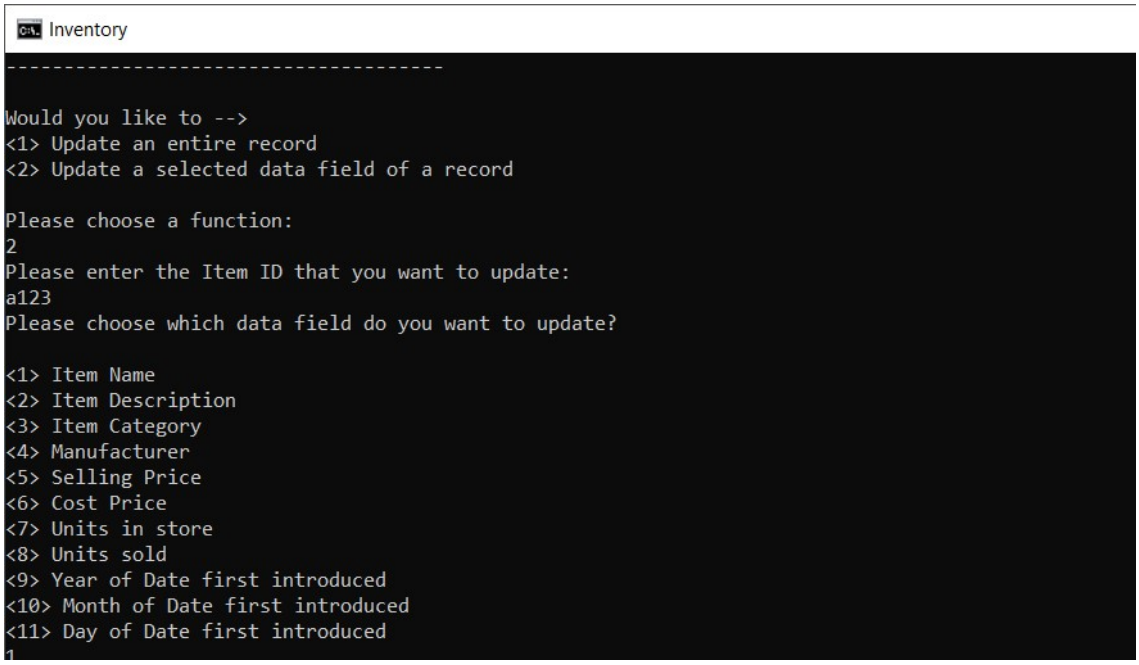


Figure 11 Update Sucessful

Figure 12 Save file changed

2.3. Delete a record in the inventory

When 3 is entered, <3> will be selected and user can delete an entire item record or selected data field just by entering the item's ID.

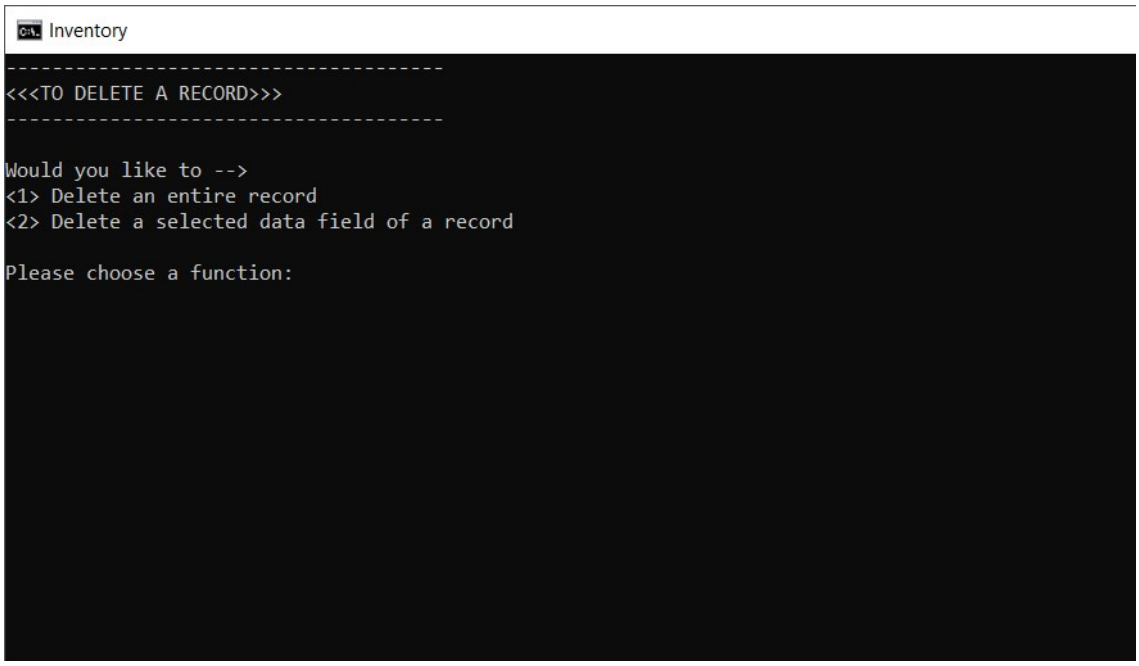


Figure 13. Item Deletion function..

Items before deleting are shown as figure below.

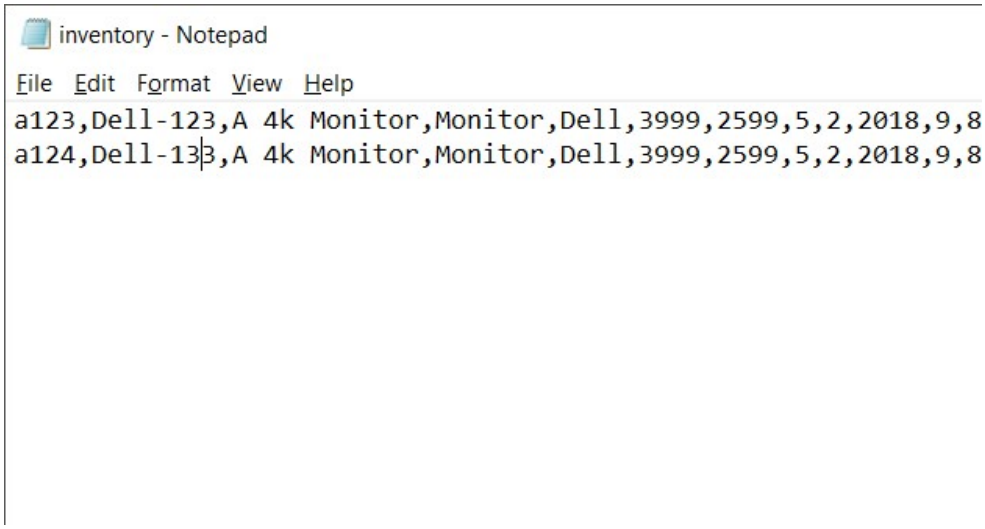


Figure 14. Item before deleting shown in *inventory.txt*

If user selected <1> based on figure 13, user will be prompted to enter the Item's ID that the user wants to delete entirely. If item ID is found and deleted, it will show that it has deleted successfully.

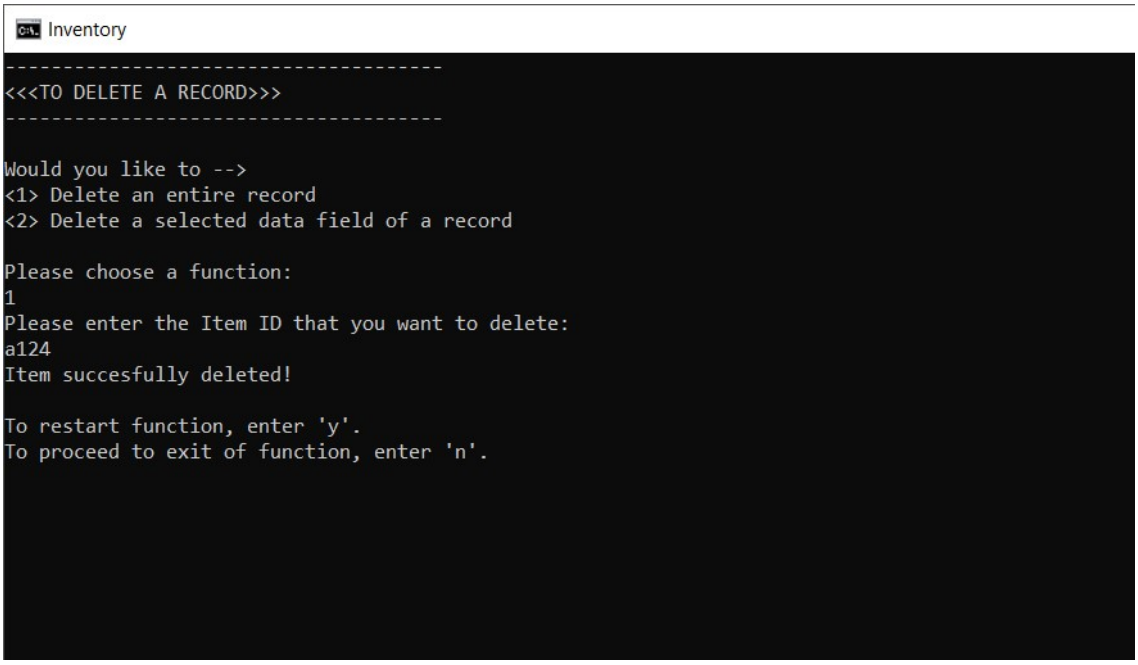


Figure 15 Item deleted in deletion function.

Figure 16 Item has been deleted from the save file.

If user selected <2>, user will be prompted to choose a specific data field to delete. For example, if <1> which is the record's Item Name, the Item Name will be changed to "-1" indicating that it has been deleted.

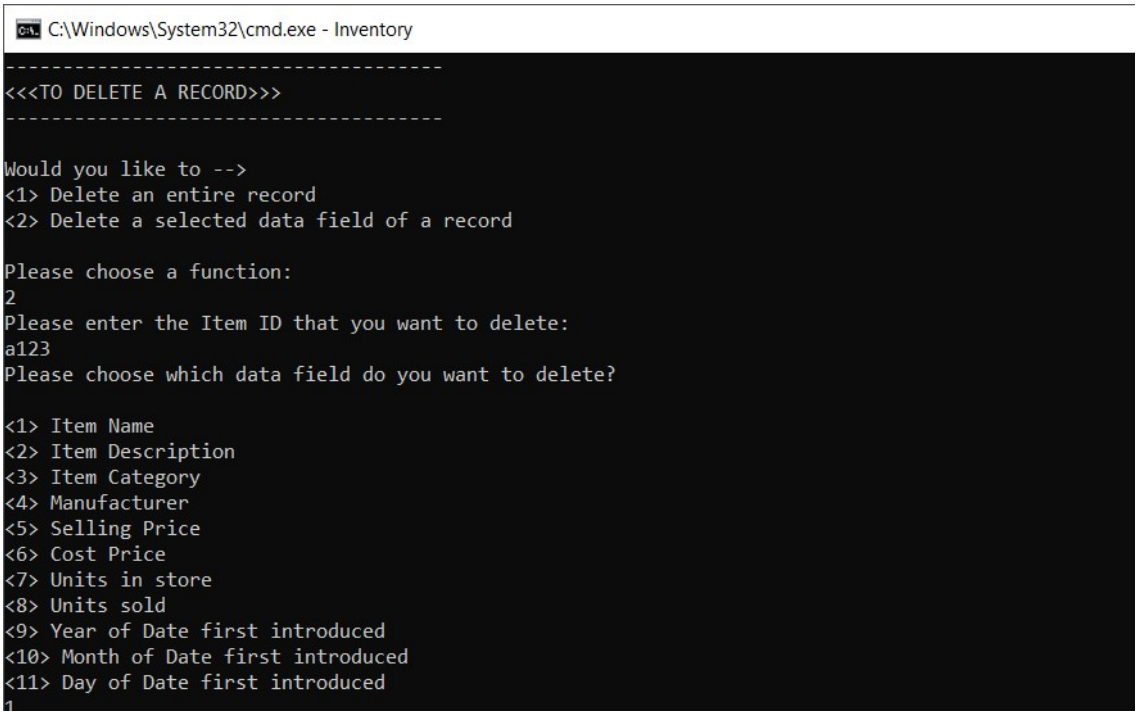


Figure 17 Item Name has been deleted.

The save file will then change into the save file below:

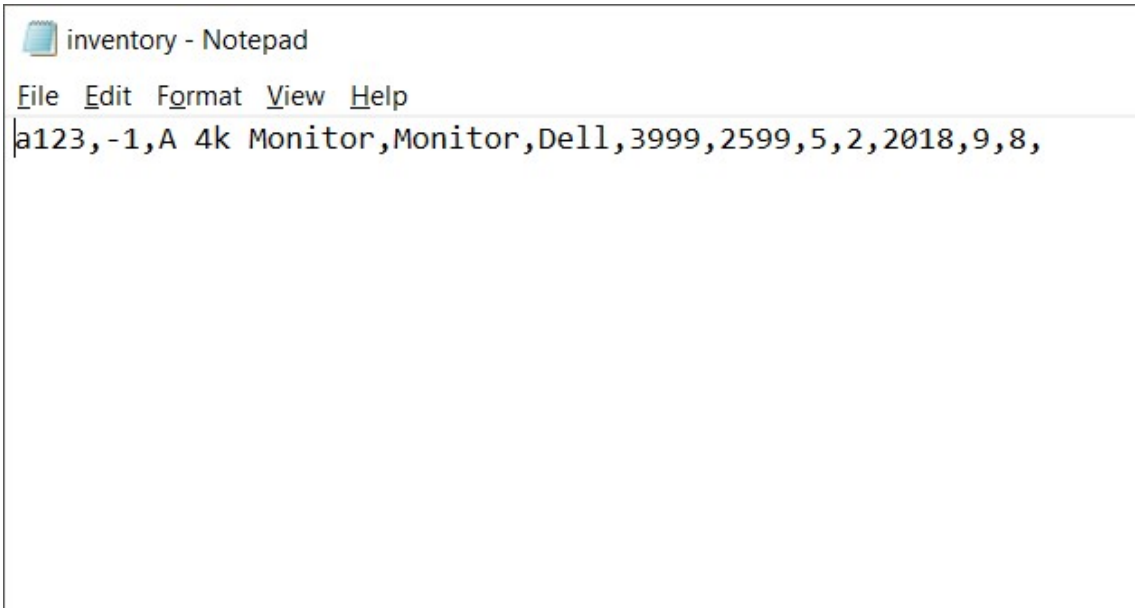


Figure 18 Item Name has been changed to "-1"

2.4. Display an inventory record and its particular data field

If (4) is entered, <4> will be selected and user will be prompted to select an option to display.

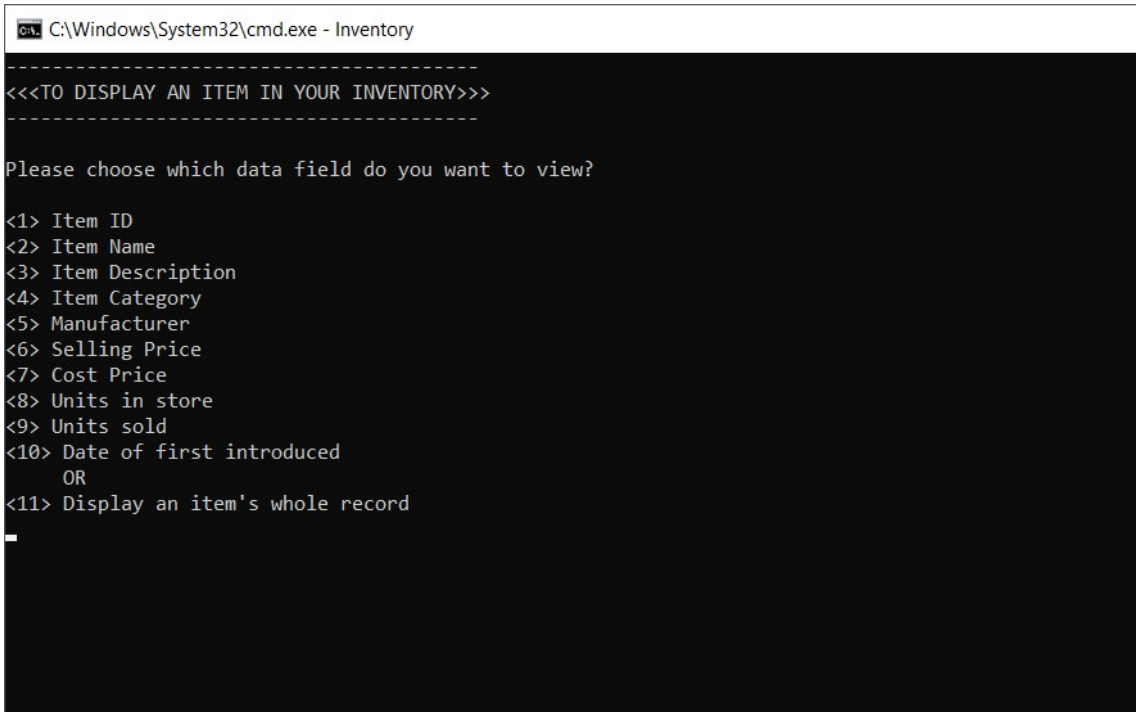


Figure 19. Options of display function

To show the usability of function <4>, a set of saved data will be firstly saved into *inventory.txt* for demonstration.

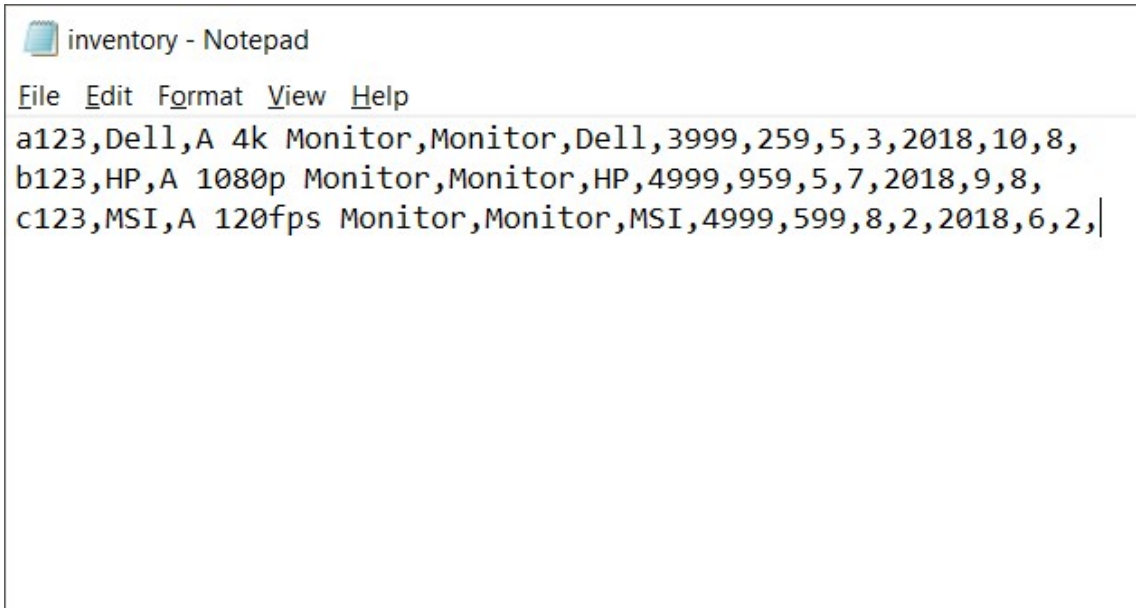


Figure 20. Inventory for demonstration

For example, if the user selected the option of <1> which is Item ID, ItemID of all the item will be displayed.

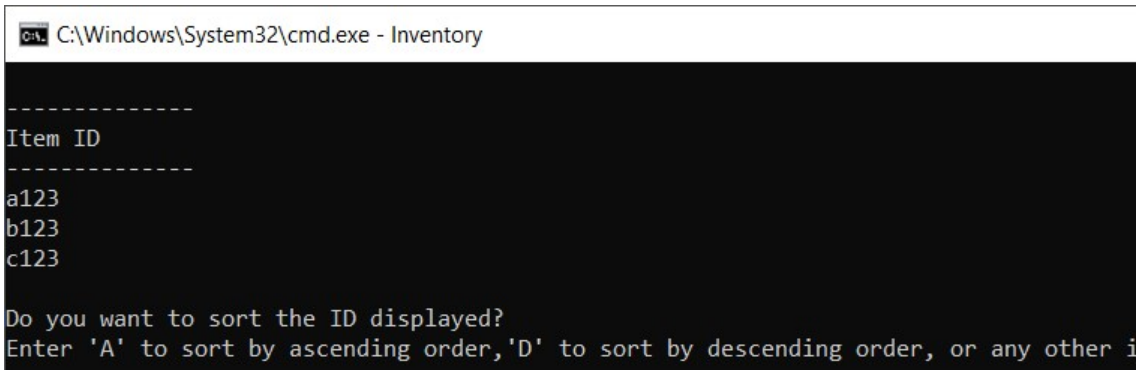


Figure 21.Option 1

User will be prompted to select whether sort the display in ascending order or descending order, or other inputs to exit.

If ‘A’ is the input, then:

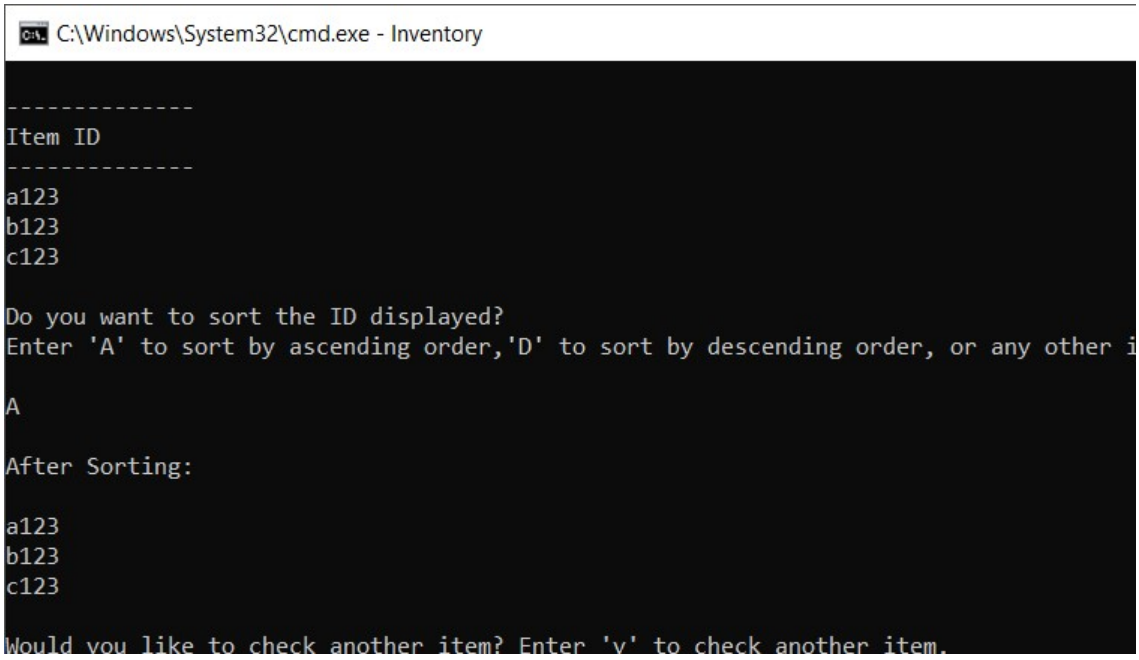


Figure 22. Sort with ascending order.

If ‘D’ is the input, then:

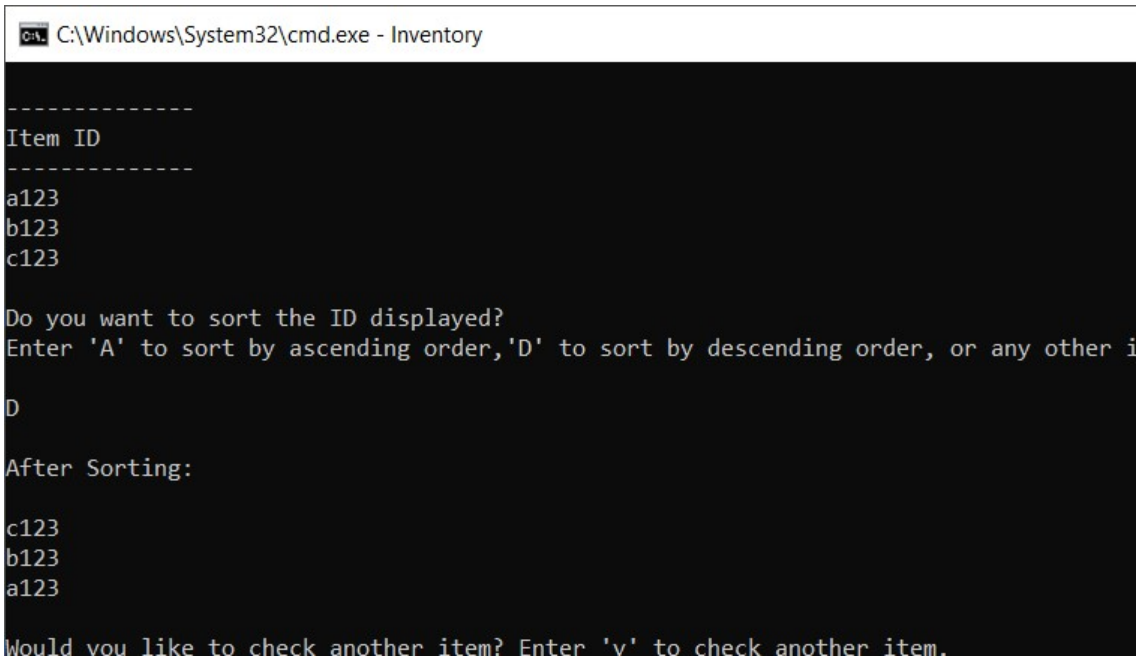


Figure 23 Sort with descending order.

For Option 11, user is required to enter an item’s ID in order to display the whole record of an item. If an item ID is invalid, user will be prompted to input the choice of return to the option or to exit the program.

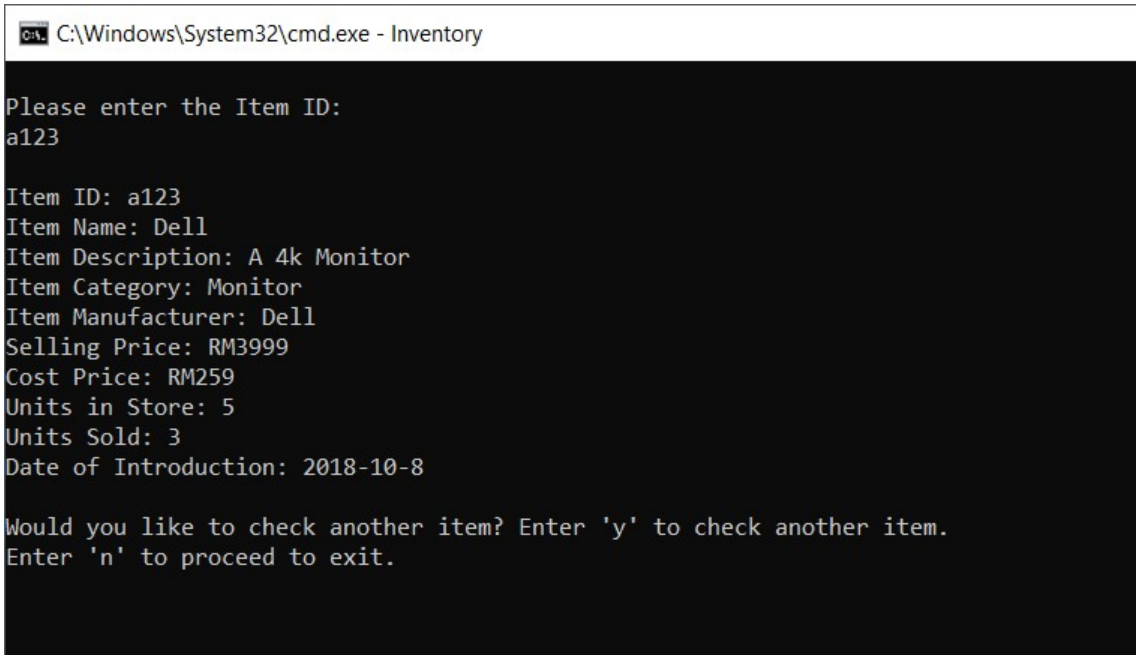


Figure 24 Option 11

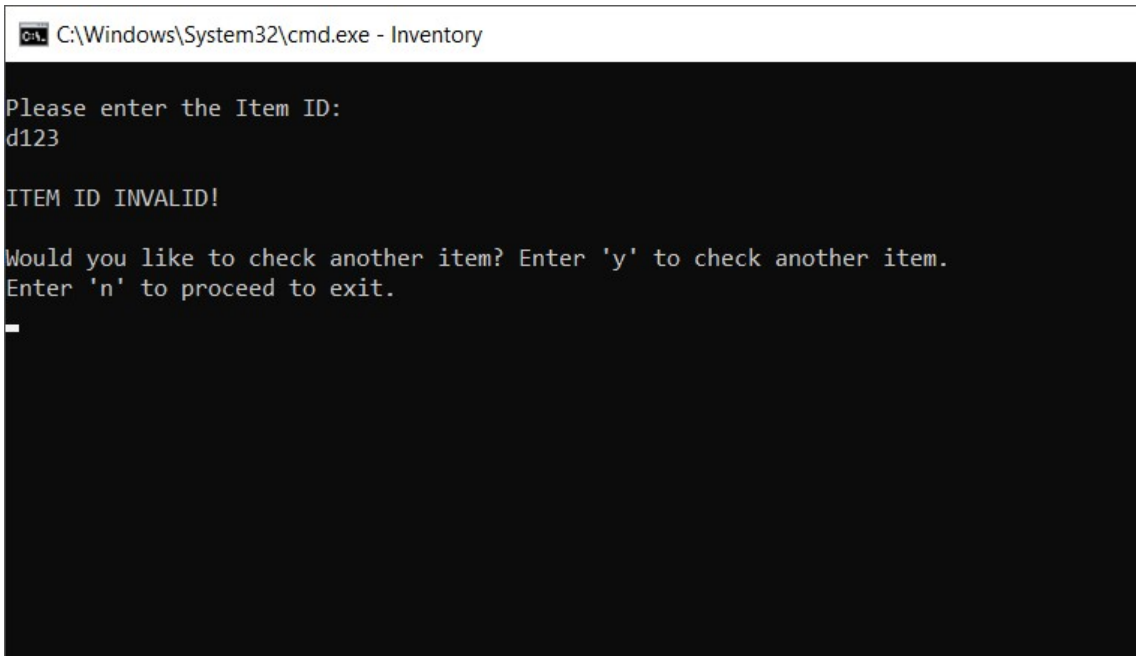


Figure 25. Option 11 when Item ID is invalid

2.5. Search for Item in the Inventory

When (5) is entered, <5> will be selected and the program will proceed to the search item function.

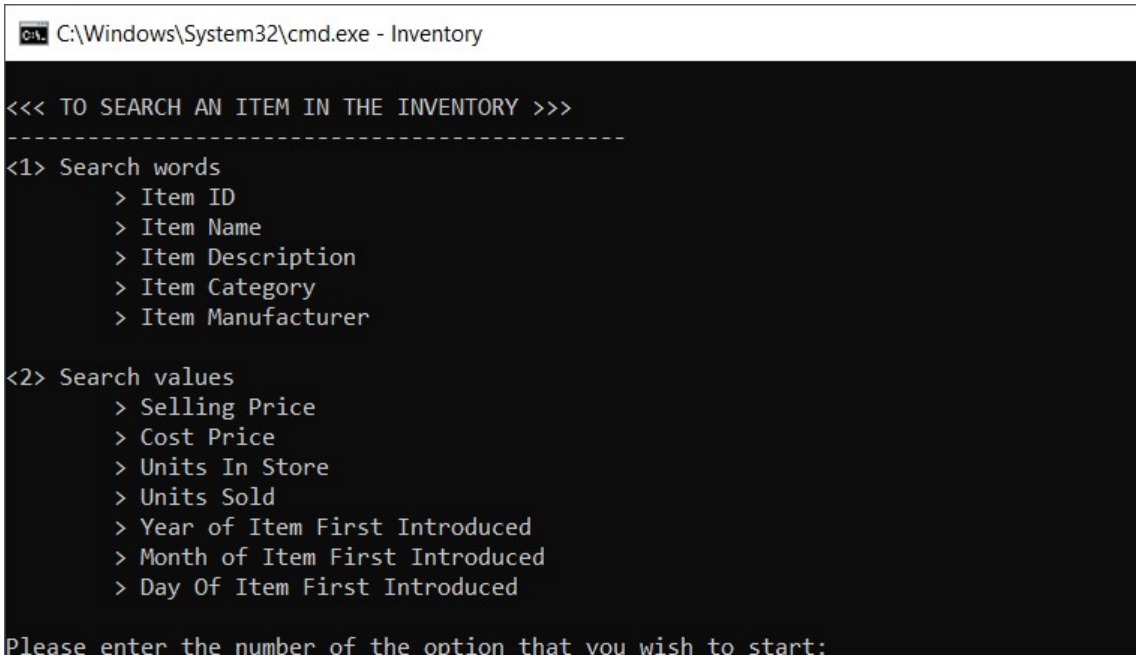


Figure 26. Search item function.

User will be prompted to enter the options that they wished to proceed which is <1> search by words or <2> search by number. The data fields that can be found through search by words are:

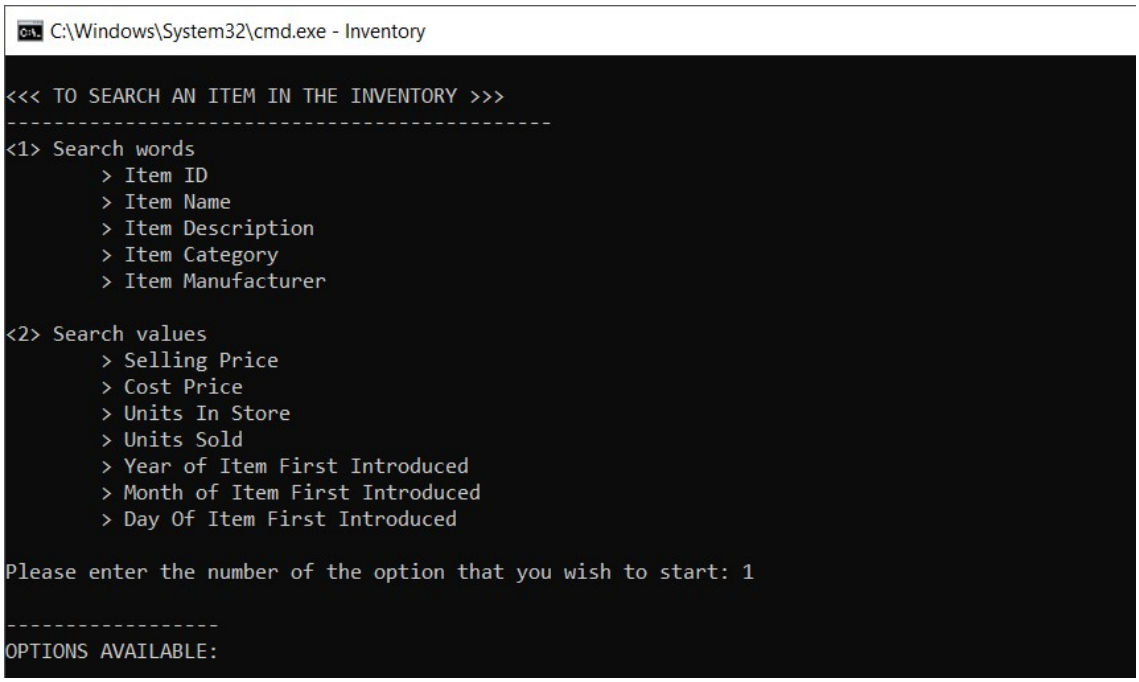
- Item ID
- Item Name
- Item Description
- Item Category
- Item Manufacturer

The data fields that can be found through search by numbers are:

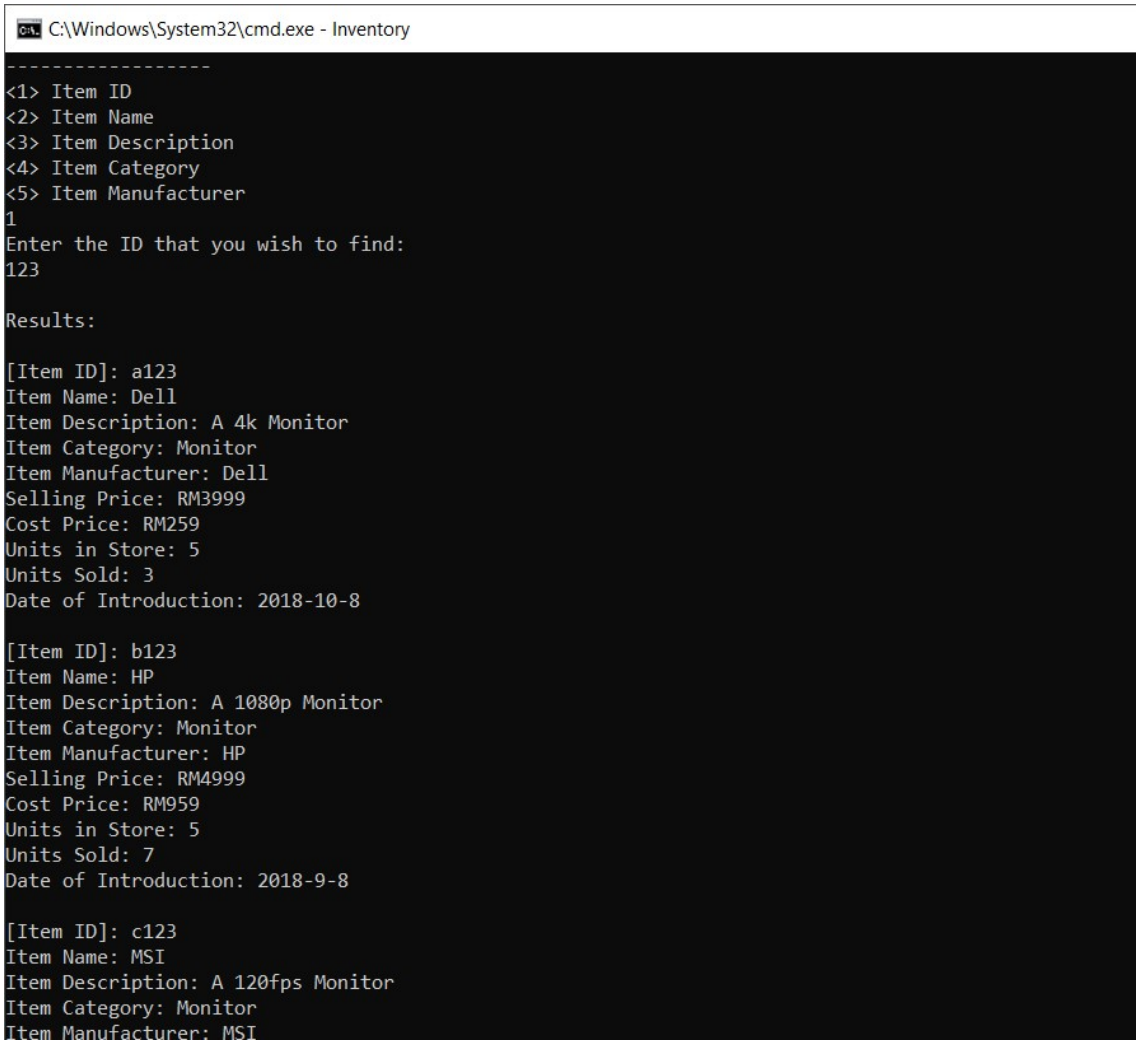
- Selling Price
- Cost Price
- Units in Store
- Units Sold
- Year of Item First Introduced
- Month of Item First Introduced

- Day of Item First Introduced

For example, by using <1> search words, users will be prompted to selected an option to search.

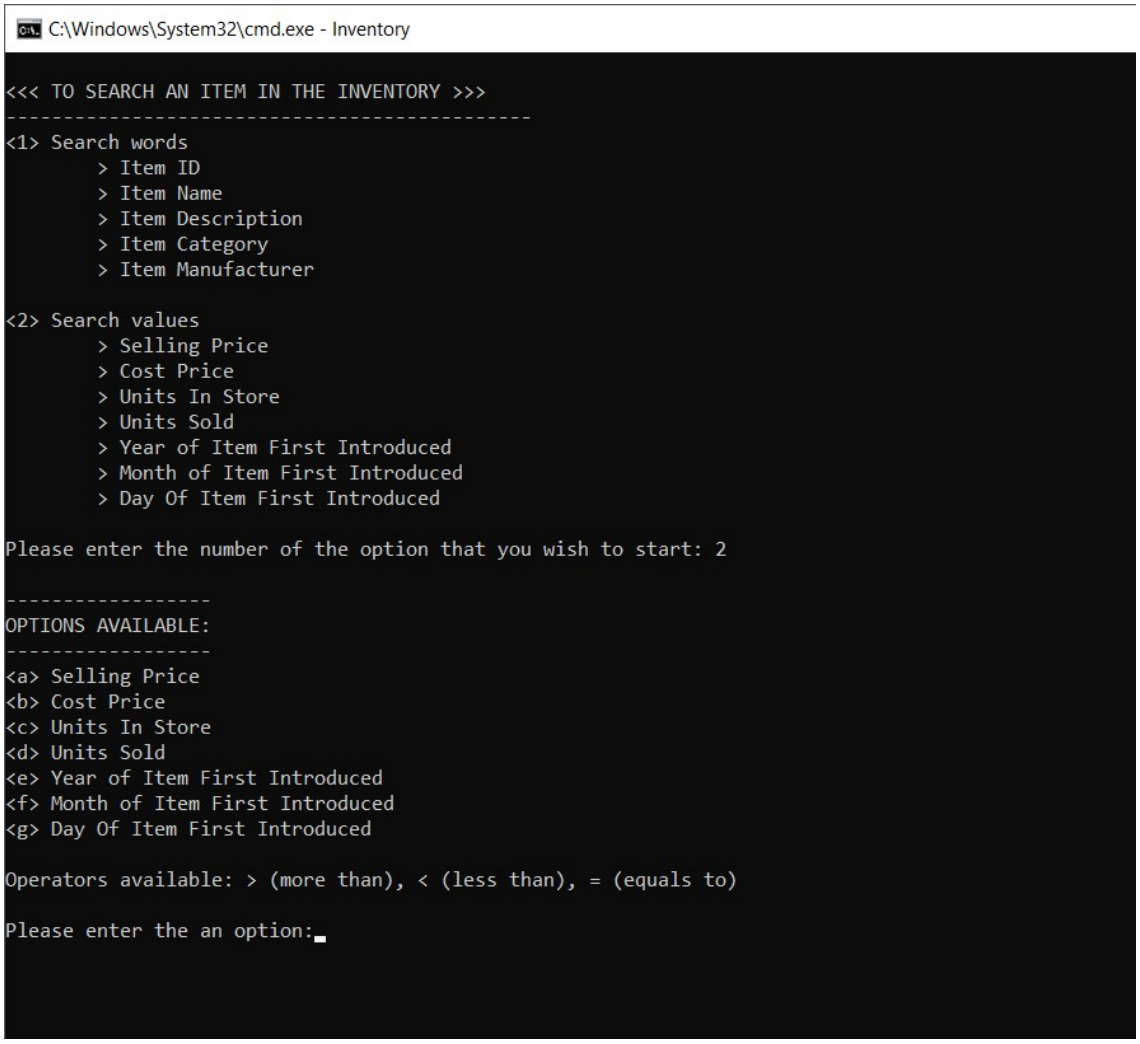


Then, user will be prompted to choose an option to search. For example: If the input is <1>Item ID is selected then user will need to input a value that the users want to find.

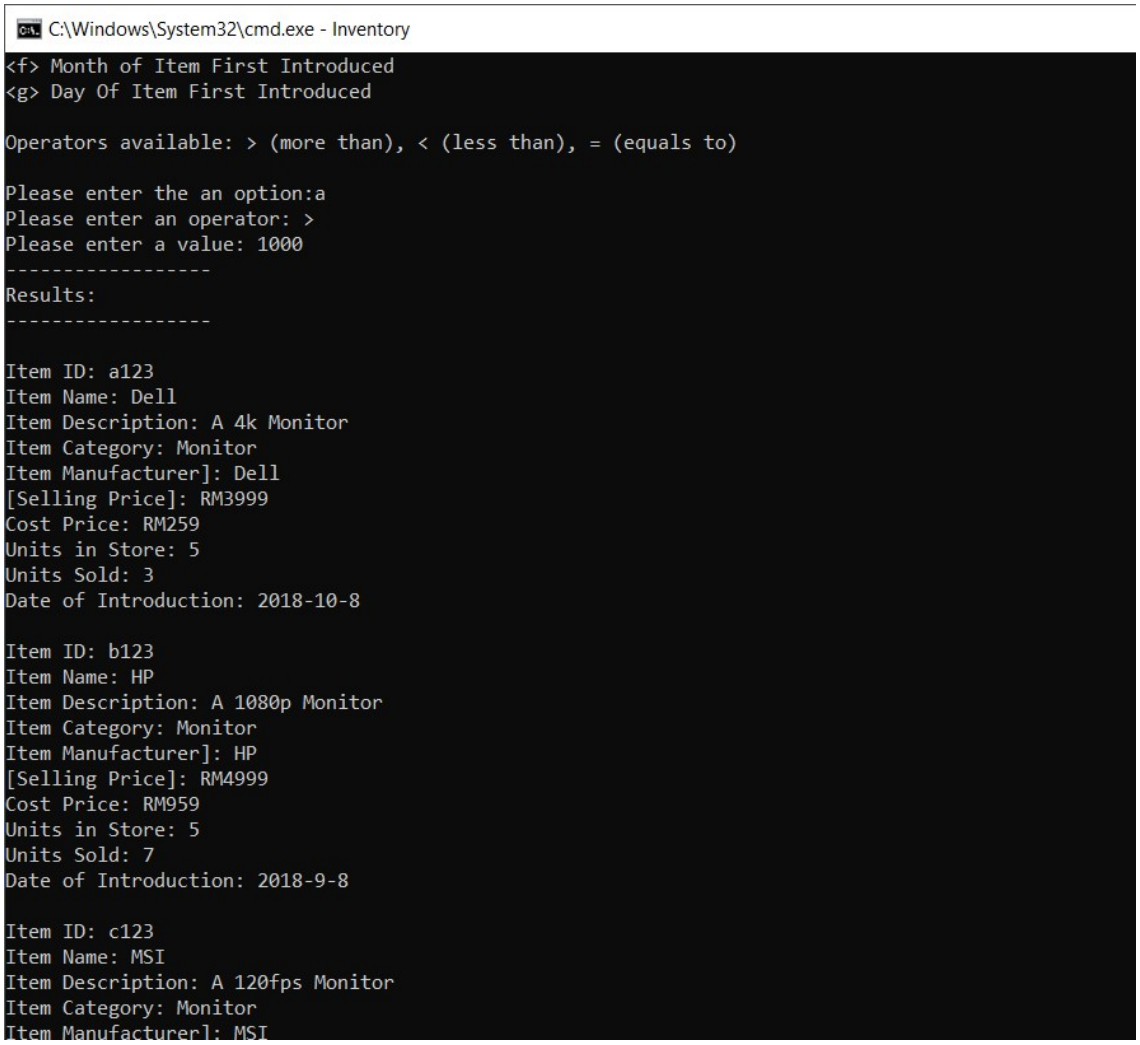


When search with input “123”, all Item ID with the 123 included in the ID will be found and printed on the display.

For example, by using <2> search numbers, users will be prompted to selected an option to search.



Then, user will be prompted to choose an option to search. For example: If the input is <a>Selling Price is selected then user will need to input an operator which is “>”,”<” or “=” then entering another value. In this case, “a”, “>”, and “1000” will be the input. The display will the show all items that have the selling price that is more than 1000.



As the same with both search words and search number options, the program will ask the user if they want to search another item or to exit the program.

2.6. Exit Program

When 6 is entered, <6> will be selected and user will exit the program.