Sample Test Case(ScreenShots):-

1:- signing up and signing in.

```
WW      WW  EEEEE  LL      CCC   OOO   MM   MM  EEEEE       TTTTTT   OOO
WW      WW  EE     LL     CC    OO OO  MMM MMM  EE             TT    OO OO
WW   W  WW  EEEE   LL     CC    OO OO  MM M MM  EEEE           TT    OO   OO
WW WWW WW   EE     LL     CC    OO OO  MM   MM  EE             TT    OO OO
 WW    WW   EEEEE  LLLLL   CCC   OOO   MM   MM  EEEEE          TT     OOO

 III NN  NN VV   VV EEEEE NN  NN TTTTT  OOO   RRRR  YY   YY
 III NNN NN VV   VV EE    NNN NN   T   OO OO  RR RR  YY YY
 III NN NNN VV  VV  EEEE  NN NNN   T   OO  OO RRRR    YYY
 III NN  NN  VVV   EE    NN  NN   T   OO OO  RR RR   YYY
 III NN  NN    V    EEEEE NN  NN   T    OOO   RR  RR  YYY

 MM   MM    AAA    NN  NN    AAA   GGGG   EEEEE MM   MM  EEEEE NN  NN TTTTT
 MMM MMM   AA AA   NNN NN  AA AA  GG       EE   MMM MMM  EE    NNN NN   T
 MM M MM  AAAAAAA  NN NNN AAAAAAA GG GGG EEEE  MM M MM  EEEE  NN NNN   T
 MM   MM  AA   AA  NN  NN AA   AA GG  GG EE    MM   MM  EE    NN  NN   T
 MM   MM  AA   AA  NN  NN AA   AA  GGGG  EEEEE MM   MM  EEEEE NN  NN   T

 SSSS  YY   YY  SSSS  TTTTT EEEEE MM    MM
 SS      YY YY  SS      T    EE   MMM  MMM
 SSSS    YYY    SSSS    T   EEEE  MM M MM
   SS    YYY      SS    T    EE    MM   MM
 SSSS    YYY    SSSS    T   EEEEE MM    MM


1) SIGN IN
2) SIGN UP
Choice: 2

============ REGISTER ============
Enter a new username: afshal
Enter new password: ss
Registered successfully!
Please sign in to continue.
1) SIGN IN
2) SIGN UP
Choice: 1

============ SIGN IN ============
Enter Username: afshal
Enter Password: ss
```

2:- Creating file upon adding a product:-

```
Login successful!

CHOOSE YOUR OPTION (1-2):
1) Add product
2) Exit

Your Choice: 1
FileName: afshal_inventory.txt

File 'afshal_inventory.txt' created successfully.
Enter the item details:
Enter the item ID: 1
Enter the item name: jelly
Enter the price: 45
Enter the quantity: 127
```

3:- Choosing the option of add product:-

```
CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 1
```

4:- Adding another item and choosing display option.

```
Enter the item details:
Enter the item ID: 2
Enter the item name: biscuit
Enter the price: 34
Enter the quantity: 98
Product added successfully.

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 2
```

5:- Product is displayed and choosing delete option.

```
ID        Product Name                Price    Quantity        Items Sold
-------------------------------------------------------------------------------
1         jelly                       45.00    127             0
2         biscuit                     34.00    98              0

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 3
```

6:- Product has been deleted and now choosing update option.

```
Enter the ID of the product to delete: 2
Product with ID 2 has been deleted.

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 4
```

7:- Updated item with respect to price and choosing display option again.

```
Enter the item ID to update: 1

Product found:
ID: 1
Name: jelly
Price: 45.00
Quantity: 127
Items Sold: 0
What do you want to update?
1) Name
2) Price
3) Quantity
Enter your choice: 2
Enter new price: 67
Product updated successfully!

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 2
```

8:- products displayed and choosing search option.

```
ID      Product Name              Price   Quantity      Items Sold
--------------------------------------------------------------------------------
1       jelly                     67.00   127           0
2       chocolate                 80.00   167           0
6       candy                     98.00   67            0

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 5
```

9:- searching ID in inventory and proceeding towards product sold function.

```
Enter the product ID to search: 2

Product found:
ID: 2
Name: chocolate
Price: 80.00
Quantity: 167
Items Sold: 0

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 6
```

10:- Entering id and amount of item sold and choosing display option again.

```
Enter the product ID which was sold: 1
Enter the quantity sold: 23
Sale recorded: 23 items sold.
Product data updated successfully!

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 2
```

11:- Products are displayed and now choosing sorting option.

```
ID      Product Name              Price   Quantity      Items Sold
------------------------------------------------------------------------
1       jelly                     67.00   104           23
2       chocolate                 80.00   167           0
6       candy                     98.00   67            0

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 7
```

12:- Sorting completed and displaying products again.

```
Choose sorting criterion:
1) Price
2) Quantity
3) Product Name
Enter your choice: 3
Sorting completed.

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 2
```

13:- Products displayed and choosing restock option (restock set to quantity<10)

```
ID        Product Name                    Price    Quantity        Items Sold
-----------------------------------------------------------------------------
6         candy                           98.00    67              0
2         chocolate                       80.00    167             0
1         jelly                           67.00    7               120

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 8
```

14:- Products needed to Restock are displayed and now choosing the exit option.

```
PRODUCTS TO BE RESTOCKED:

ID        Product Name                    Price    Quantity        Items Sold
-----------------------------------------------------------------------------
1         jelly                           67.00    7               120

CHOOSE YOUR OPTION (1-9):
1) Add product
2) Display products
3) Delete product
4) Update product
5) Search product
6) Product sold
7) Sorting
8) Restock
9) Exit

Your Choice: 9
```

15:- Exiting the inventory.

```
Exiting the program.

----------------------------------
Process exited after 240.7 seconds with return value 0
Press any key to continue . . .
```