

AML1214 Python Programming 01

Fall 2022 Project

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Problem Definition

Create an application written in Python that the user/technician can use to **Add, View, Delete, Update** and **Search** for devices in their company's computer lab.

List of Requirements

Requirement No.	Description
Req_01	Implement login functionality with username and password to be able to use the system
Req_01_01	<u>Valid Authorization</u> User login with valid username and password, and user should be able to login to the system successfully. “ Welcome to the Device Management System ” and menu options are displayed.
Req_01_02	<u>Invalid Authorization – Error handling</u> User login with invalid username and/or password, and user should not be able to login to the system. An error message “ Invalid username and/or password. You have <num of login attempts left> login attempt left ” is displayed. User can retry to login up to 3 attempts.
Req_01_03	<u>Invalid Authorization – Error handling 3rd attempt</u> User login with invalid username and/or invalid password on the 3 rd attempt, and user should not be able to login to the system. Error message “ Invalid username and/or password. You have exceeded 3 login attempts. ” is displayed. Application exits and user cannot progress with the application.
Req_02	Create a text file that contain a list of devices each in one line. devices.txt ----- 1009234bx ThinkSystem SN550 4500987zx ThinkSystem SN850 2345003cr PowerEdge R240 4530978km PowerEdge T640 8345609sa HPE ProLiant DL385 7776501qa HPE ProLiant ML350
Req_03	Create a main menu for the user to select from different options: <u>Welcome to the Device Management System</u> 1. View all devices 2. Add a device 3. Delete a device 4. Update a device 5. Search for a device 6. Exit the program

	Select one option from the list (1, 2, 3, 4, 5 or 6):
Req_04_01	Entering “1” lists all the devices from devices.txt
Req_04_02	Entering “2” allows the user to add device and store data in devices.txt .
Req_04_02_01	<p><u>Add Successful</u> When user enters a device that follows the correct format, a message “<device> is added” is displayed and the device is added in devices.txt.</p> <p>Input Format: [device code] [device name] Device Code: 7 numbers and 2 characters e.g. [0000001ab] Device Name: varchar</p>
Req_04_02_02	<p><u>Add Error Handling – Invalid Device Code</u> When user enters a device that does not follow the correct format, an error message “Invalid device code pattern” is displayed and the device is not added in devices.txt.</p> <p>Device Code: 7 numbers and 2 characters e.g. [0000001ab] Device Name: varchar</p>
Req_04_02_03	<p><u>Add Error Handling – Missing Device Name</u> When user enters a device that does not follow the correct format, an error message “Missing device name. Format [device code] [device name]” is displayed and the device is not added in devices.txt.</p>
Req_04_03	Entering “3” allows the user to delete single/multiple device(s), and the device is removed from devices.txt .
Req_04_03_01	<p><u>Delete Successful – Single Device</u> When there is a device that matches the code, a message “<device> is deleted” is displayed and the device is removed from the devices.txt.</p>
Req_04_03_02	<p><u>Delete Successful – Multiple Devices</u> When there are multiple devices that match the code, the user is prompted to select the number of device names (comma-separated) to be deleted. Only the selected device names are removed from the devices.txt.</p>
Req_04_03_03	<p><u>Delete Error Handling</u> When there is no device that matches the code, a message “Device code <code> is not found” is displayed.</p>
Req_04_04	Entering “4” allows the user to update device names. The changes are written back in devices.txt .
Req_04_04_01	<p><u>Update Successful – Single Device</u> When there is a device that matches the code, the old device name is displayed, and the user is prompted to enter the new device name. A message for successful update is displayed, and the changes is reflected in devices.txt.</p>

Req_04_04_02	<p><u>Update Successful – Multiple Devices</u></p> <p>When there are multiple devices that match the code, the user is prompted to select the number of device names (comma-separated) to be updated. The user is prompted to enter the new name for each device. Only the changes on selected device names are reflected in devices.txt.</p>
Req_04_04_03	<p><u>Update Error Handling</u></p> <p>When there is no device that matches the code, a message “Device code <code> is not found” is displayed.</p>
Req_04_05	<p>Entering “5” allows the user to search for device(s) that are available in devices.txt by entering a keyword (case-insensitive).</p>
Req_04_05_01	<p><u>Search Successful</u></p> <p>When there is device that matches the keyword, the list of devices is displayed.</p>
Req_04_05_02	<p><u>Search Error Handling</u></p> <p>When there is no device that matches the keyword, a message “Keyword <keyword> is not found” is displayed.</p>
Req_04_06	<p>Entering “6” exits the application with message “Thank you for using the application!”</p>
Req_04_07	<p><u>Menu Option Error Handling</u></p> <p>Entering any value except for 1, 2, 3, 4, 5, or 6 will display an error message “This is an invalid selection. Try again.”. User can enter another value to progress.</p>
Req_05	<p>After the completion of each transaction (1 to 5), user is prompted if he wants to progress. A message “Do you want to continue? [y/n]” is displayed.</p>
Req_05_01	<p>Entering “y” or “Y” will show the list of menu options for the user to choose from</p>
Req_05_02	<p>Entering “n” or “N” will exit the application with message “Thank you for using the application!”</p>
Req_05_03	<p><u>Continue with the application Error Handling</u></p> <p>Entering any value except for “y”, “Y”, “n”, “N” will display an error message “Invalid input. Type 'y' for yes or 'n' for no.” User can enter the correct value to progress.</p>

Program Execution

Based on the sequence in the AML1214: Project F22 Documentation

- a. Login as any of the following valid accounts. “**Welcome to the Device Management System**” and Main Menu feature list is displayed after successful login.

*Note: The account credentials are saved in **accounts** file*

Username	Password
acastro	Python
brajendra	Python
odeguit	Python
rkaram	Python

```
+++++
+      Login to Your Account      +
+++++
Enter username: odeguit
Enter password: Python
Log In Successful

+++++
+  Welcome to the Device Management System  +
+++++

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6):
```

- b. Enter option “1” to display the list of devices.

```
1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350

Do you want to continue? [y/n]:
```

- c. Enter “y” to continue using the application. List of Menu Features are redisplayed for user reference.

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350

Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6):
```

- d. Enter option “2” to Add New Device. Input the device “5556789yt IBM X1290”

```
1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 2
Note: Device code should consist of 7 numbers and 2 characters
Add device, format [device code] [device name]: 5556789yt IBM X1290
5556789yt IBM X1290 is added

Do you want to continue? [y/n]:
```

- e. Enter “y” to continue using the application. List of Menu Features are redisplayed for user reference. Then enter option “1” to display the list of devices and verify that the device has been added successfully in “devices.txt”.

```
Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290

Do you want to continue? [y/n]:
```


- f. Enter “y” to continue using the application. List of Menu Features are redisplayed for user reference. Then enter option “7” which is an invalid option to check on the error handling.

```
Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 7
Invalid selection. Try again.

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6):
```

- g. Enter “6” to exit the application. Message “Thank you for using the application!” is displayed.

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 7
Invalid selection. Try again.

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 6

Thank you for using the application!

Process finished with exit code 0
```

Based on the full requirement in the AML1214: Project F22 Documentation

a. Req_01: Login Feature Implementation

Username	Password
acastro	Python
brajendra	Python
odeguit	Python
rkarim	Python

```
+++++
+           Login to Your Account           +
+++++
Enter username: odeguit
Enter password: Python
```

b. Req_01_01: Valid Authorization

```
+++++
+           Login to Your Account           +
+++++
Enter username: odeguit
Enter password: Python
Log In Successful

+++++
+   Welcome to the Device Management System   +
+++++

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6):
```

c. Req_01_02: Invalid Authorization – Error Handling

```

+++++
+          Login to Your Account          +
+++++
Enter username: Python
Enter password: odeguit
Invalid username and/or password. You have 2 login attempt left.

Enter username: ocastra
Enter password: python
Invalid username and/or password. You have 1 login attempt left.

Enter username:

```

d. Req_01_03: Invalid Authorization – Error handling 3rd Attempt

```

+++++
+                               +
+       Login to Your Account       +
+                               +
+++++
Enter username: Python
Enter password: odeguit
Invalid username and/or password. You have 2 login attempt left.

Enter username: acastro
Enter password: python
Invalid username and/or password. You have 1 login attempt left.

Enter username: bRajEndRa
Enter password: Python
Invalid username and/or password. You have exceeded 3 login attempts.
Exiting application...

Process finished with exit code 0

```

e. Req_02: Create text file “**devices.txt**”

The file was loaded in a wrong encoding: 'UTF-8'

```
1 [EOT] SOHNULNULNULNULNULNUL [ ] ( — 1009234bx [DC] ThinkSystem SN550e [ ] ( — 4500987zx [D]
```

f. Req_03: Display Device Application Main Menu

```
+++++
+   Welcome to the Device Management System   +
+++++

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6):
```

g. Req_04_01: Enter "1" to list all the devices

```
1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290

Do you want to continue? [y/n]:
```

h. Req_04_02: Enter "2" to add new device

```
1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 2
Note: Device code should consist of 7 numbers and 2 characters
Add device, format [device code] [device name]:
```

i. Req_04_02_01: Add Device - Successful

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 2
Note: Device code should consist of 7 numbers and 2 characters
Add device, format [device code] [device name]: 1234567ab DELL X1000
1234567ab DELL X1000 is added
Do you want to continue? [y/n]:
```

Post Validation: Enter “y” then “1” to list all the devices. The newly add device “1234567ab DELL X1000” was included in the list.

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 2
Note: Device code should consist of 7 numbers and 2 characters
Add device, format [device code] [device name]: 1234567ab DELL X1000
1234567ab DELL X1000 is added
Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290
- 1234567ab DELL X1000
Do you want to continue? [y/n]:
```

j. Req_04_02_02: Add Device – Error handling (Invalid Device Code)

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 2
Note: Device code should consist of 7 numbers and 2 characters
Add device, format [device code] [device name]: 123456789 MAC 2022
Invalid device code pattern
Do you want to continue? [y/n]:
```

Post Validation: Enter “y” to continue then “1” to list all the devices. The device with invalid code “123456789 MAC 2022” was not included in the list.

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 2
Note: Device code should consist of 7 numbers and 2 characters
Add device, format [device code] [device name]: 123456789 MAC 2022
Invalid device code pattern
Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290
- 1234567ab DELL X1000
Do you want to continue? [y/n]:
```

k. Req_04_02_03: Add Device – Error handling (Missing Device Name)

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 2
Note: Device code should consist of 7 numbers and 2 characters
Add device, format [device code] [device name]: 0000007ab
Missing device name. Format [device code] [device name]
Do you want to continue? [y/n]:
```

Post Validation: Enter “y” to continue then “1” to list all the devices. The device with missing device name “0000007ab” was not included in the list.

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 2
Note: Device code should consist of 7 numbers and 2 characters
Add device, format [device code] [device name]: 0000007ab
Missing device name. Format [device code] [device name]

Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290
- 1234567ab DELL X1000

Do you want to continue? [y/n]:
```

I. Req_04_03: Enter “3” to delete device

```
1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 3
Enter code to delete device:
```

m. Req_04_03_01: Delete Device – Successful (Single Device)

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 3
Enter code to delete device: 1234567ab
1234567ab DELL X1000 is deleted

Do you want to continue? [y/n]:
```

Post Validation: Enter “y” to continue then “1” to list all the devices. The deleted device “1234567ab DELL X1000” was removed from the device list.

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 3
Enter code to delete device: 1234567ab
1234567ab DELL X1000 is deleted

Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290

Do you want to continue? [y/n]:
```

n. Req_04_03_02: Delete Device – Successful (Multiple Devices)

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 3
Enter code to delete device: 0000001xv
Device names using code 0000001xv
1. HP SN01
2. HP SN02
3. HP SN03
Enter number to delete device name (comma separated): 2,3
0000001xv HP SN02 is deleted
0000001xv HP SN03 is deleted

Do you want to continue? [y/n]: |
```


Post Validation: Enter “y” to continue then “1” to list all the devices. The deleted devices “0000001xv HP SN02” and “0000001xv HP SN03” were removed from the device list.

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 3
Enter code to delete device: 0000001xv
Device names using code 0000001xv
1. HP SN01
2. HP SN02
3. HP SN03
Enter number to delete device name (comma separated): 2,3
0000001xv HP SN02 is deleted
0000001xv HP SN03 is deleted

Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 0000001xv HP SN01

Do you want to continue? [y/n]: |
```

o. Req_04_03_03: Delete Device – Error Handling

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 3
Enter code to delete device: 5556758xz
Device code 5556758xz is not found

Do you want to continue? [y/n]:
```

- p. Req_04_04: Enter “4” to update device

```
1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 4
Enter code to update device:
```

- q. Req_04_04_01: Update Device – Success (Single Device)

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 4
Enter code to update device: 1009234bx
Old device name: ThinkSystem SN550
New device name: ThinkSystem SN550 V2
Device name is updated

Do you want to continue? [y/n]:
```

Post Validation: Enter “y” to continue then “1” to list all the devices. The device name for “1009234bx” was updated with “ThinkSystem SN550 V2” and was reflected in the device list.

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 4
Enter code to update device: 1009234bx
Old device name: ThinkSystem SN550
New device name: ThinkSystem SN550 V2
Device name is updated

Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550 V2
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290

Do you want to continue? [y/n]:
```

r. Req_04_04_02: Update Device – Success (Multiple Devices)

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 4
Enter code to update device: 0000001xv
Device names using code 0000001xv
1. HP SN01
2. SN05
3. SN06
Enter number to update device name (comma separated): 2,3
Old device name: SN05
New device name: HP SN05
Device name is updated
Old device name: SN06
New device name: HP SN06
Device name is updated
```

Post Validation: Enter “y” to continue then “1” to list all the devices. The device name for “0000001xv” with previous device name “SN05” and “SN06” were updated with “HP SN05” and “HP SN06” respectively, and were reflected in the device list.

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 4
Enter code to update device: 0000001xv
Device names using code 0000001xv
1. HP SN01
2. SN05
3. SN06
Enter number to update device name (comma separated): 2,3
Old device name: SN05
New device name: HP SN05
Device name is updated
Old device name: SN06
New device name: HP SN06
Device name is updated

Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 0000001xv HP SN01
- 0000001xv HP SN05
- 0000001xv HP SN06

Do you want to continue? [y/n]: |
```

s. Req_04_04_03: Update Device – Error Handling

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 4
Enter code to update device: 1234567cv
Device code 1234567cv is not found

Do you want to continue? [y/n]: |
```

Post Validation: Enter “y” to continue then “1” to list all the devices. Nothing was updated in the “devices.txt” since there was no device in the list using the code “1234567cv”.

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 4
Enter code to update device: 1234567cv
Device code 1234567cv is not found

Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550 V2
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290

Do you want to continue? [y/n]: |
```

t. Req_04_05: Enter “5” to search for device

```
1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 5
Enter keyword to search for device:
```

- u. Req_04_05_01: Search for Device - Successful

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 5
Enter keyword to search for device: HPE
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350

Do you want to continue? [y/n]:
```

- v. Req_04_05_02: Search for Device – Error Handling

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 5
Enter keyword to search for device: xyz
Keyword xyz is not found

Do you want to continue? [y/n]:
```

- w. Req_04_06: Enter “6” to exit the application

```
Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 6

Thank you for using the application!

Process finished with exit code 0
```

x. Req_04_07: Menu – Error Handling

```
1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 7
Invalid selection. Try again.

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): a
Invalid selection. Try again.

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): |
```

y. Req_05: Continue with the application

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 1
```

```
List of all devices:
```

- 1009234bx ThinkSystem SN550 V2
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290

```
Do you want to continue? [y/n]: y
```

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

```
Select one option from the list (1, 2, 3, 4, 5 or 6): 5
```

```
Enter keyword to search for device: hp
```

- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350

```
Do you want to continue? [y/n]:
```

z. Req_05_01: Continue - "Y" or "y" [Progress]

```
Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 5
Enter keyword to search for device: hp
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350

Do you want to continue? [y/n]: y

1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6):
```

aa. Req_05_02: Continue - "N" or "n" [Exit]

```
1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550 V2
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290

Do you want to continue? [y/n]: n

Thank you for using the application!

Process finished with exit code 0
```


bb. Req_05_03: Continue – Error Handling

```
1. View all devices
2. Add a device
3. Delete a device
4. Update a device
5. Search for a device
6. Exit the program

Select one option from the list (1, 2, 3, 4, 5 or 6): 1
List of all devices:
- 1009234bx ThinkSystem SN550 V2
- 4500987zx ThinkSystem SN850
- 2345003cr PowerEdge R240
- 4530978km PowerEdge T640
- 8345609sa HPE ProLiant DL385
- 7776501qa HPE ProLiant ML350
- 5556789yt IBM X1290

Do you want to continue? [y/n]: N

Thank you for using the application!

Process finished with exit code 0
```