

S.No: 12	Exp. Name: <i>Implement application of Items present in a library using Lists data structure</i>	Date:2024-11-27
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Aim:

You are required to implement a simple library management application that allows users to manage a collection of items (such as books, magazines, etc.). The application should provide options to display the current library inventory, add new items, remove items, and exit the application.

Implement the following functions:

- `display_library(library)`: This function takes a list of items and prints each item in the library.
- `add_item(library, item)`: This function takes the library list and an item to add, appending the item to the library.
- `remove_item(library, item)`: This function takes the library list and an item to remove. If the item exists, it removes it; otherwise, it prints a **"not found"** message.

Initialize an empty library list.

Use a loop to continuously display a menu that allows the user to:

- Display the library inventory
- Add a new item to the library
- Remove an existing item from the library
- Quit the application

Input Format:

- The application should prompt the user for their choice of action (1 to 4). if the user enter an invalid choice, print **"Invalid choice"**
- If the user chooses to add or remove an item, the application should prompt for the item name.

Output Format:

The program should print appropriate messages based on user actions, such as:

- Displaying the current library inventory.
- Confirming when an item has been added or removed.
- Indicating if an item to remove was not found.
- Exiting the application.

Note : Refer to sample test cases for better understanding of input and output format

Source Code:

libraryApplication.py

```
a=1
item=[]
while(True):
    e=len(item)
    print("Library Application")
    print("1.Display Library")
    print("2.Add Item")
    print("3.Remove Item")
    print("4.Quit")
    a=int(input("Enter your choice:"))
    if(a==1):
        print("Library Inventory:")
```

```

        for i in range(0,e):
            print(item[i])
    elif(a==2):
        x=input("item to add:")
        item.append(x)
        print("added to the library")
    elif(a==3):
        y=input("item to remove:")
        if(y not in item):
            print(("not found"))
        else:
            item.remove(y)
            print("removed farom the library")
    elif(a==4):
        print("Exiting the library application")
        break
    else:
        print("Invalid choice")

```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Library Application 5
1.Display Library 5
2.Add Item 5
3.Remove Item 5
4.Quit 5
Enter your choice: 5
Invalid choice 4
Library Application 4
1.Display Library 4
2.Add Item 4
3.Remove Item 4
4.Quit 4
Enter your choice: 4
Exiting the library application

Test Case - 2
User Output
Library Application 2
1.Display Library 2
2.Add Item 2
3.Remove Item 2
4.Quit 2
Enter your choice: 2
item to add: book1
added to the library 2
Library Application 2
1.Display Library 2
2.Add Item 2
3.Remove Item 2
4.Quit 2

Enter your choice: 2
item to add: book2
added to the library 3
Library Application 3
1.Display Library 3
2.Add Item 3
3.Remove Item 3
4.Quit 3
Enter your choice: 3
item to remove: book9
not found 3
Library Application 3
1.Display Library 3
2.Add Item 3
3.Remove Item 3
4.Quit 3
Enter your choice: 3
item to remove: book1
removed farom the library 4
Library Application 4
1.Display Library 4
2.Add Item 4
3.Remove Item 4
4.Quit 4
Enter your choice: 4
Exiting the library application