list labs

Lab 1: Name Collector

Goal: Practice append()

1. Start with names = [].
2. Loop: prompt “Name (blank to end): ”.
    - If non-blank, do names.append(name).
    - Else break.
3. Print names.

Lab 2: Seat Arranger

Goal: Use insert() and remove()

1. Initialize seats = ["Ana","Ben","Cara","Dan"].
2. Print seats with indices.
3. Ask “New name: ” → name; ask “Index (0–len): ” → i; do seats.insert(i,name).
4. Print updated seats; ask “Remove who? ” → r; if r in seats, do seats.remove(r).
5. Print final seats.
6.

Lab 3: Mini Stack

Goal: Use append() + pop() like a stack

1. Start with stack = [].
2. Loop: prompt “Enter item, ‘pop’, or ‘quit’: ”.
    - If input is a word → stack.append(...).
    - If “pop” → if nonempty do stack.pop().
    - If “quit” → break.
3. After each action, print stack.
4.

Lab 4: Micro To-Do

Goal: Combine append(), insert(), remove(), pop()

1. todos = []
2. Loop: show menu
    1. add (end)
    2. insert (at index)
    3. remove (by name)
    4. pop (last)
    5. show
    6. quit
3. Implement each choice with the matching list method and print the updated list.

Solutions

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Lab 1 Solution: Name Collector

names = []

while True:
    name = input("Name (blank to end): ")
    if not name:
        break
    names.append(name)

print("\nCollected names:")
print(names)


Lab 2 Solution: Seat Arranger

seats = ["Ana", "Ben", "Cara", "Dan"]

# show current seating
print("Seats:")
for i, n in enumerate(seats):
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    print(f"  {i}: {n}")

# insert a new guest
new = input("\nNew name: ")
idx = int(input(f"Index (0-{len(seats)}): "))
seats.insert(idx, new)

print("\nAfter insert:")
print(seats)

# remove a guest
rem = input("\nRemove who? ")
if rem in seats:
    seats.remove(rem)

print("\nFinal seating:")
print(seats)
```

Lab 3 Solution: Mini Stack

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stack = []

while True:
    cmd = input("Enter item, 'pop', or 'quit': ")
    if cmd == "pop":
        if stack:
            stack.pop()
        else:
            print("Stack is empty.")
    elif cmd == "quit":
        break
    else:
        stack.append(cmd)
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    print("Stack now:", stack)


Lab 4 Solution: Micro To-Do

todos = []

while True:
    print("""
1) add
2) insert
3) remove
4) pop
5) show
6) quit
""")
    choice = input("Choice: ")

    if choice == "1":
        todos.append(input("Task: "))
    elif choice == "2":
        task = input("Task: ")
        idx = int(input(f"Index (0-{len(todos)}): "))
        todos.insert(idx, task)
    elif choice == "3":
        task = input("Task to remove: ")
        if task in todos:
            todos.remove(task)
    elif choice == "4":
        if todos:
            todos.pop()
    elif choice == "5":
        print("\nTo-do list:")
        for i, t in enumerate(todos):
            print(f"  {i}: {t}")
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elif choice == "6":
    break
else:
    print("Invalid choice.")

print()  # blank line for readability
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