Exercise 1:Perform crud operation in an array

Operations:

1. **Create** – Add elements to the array.
2. **Read** – Display elements of the array.
3. **Update** – Modify an element in the array.
4. **Delete** – Remove an element from the array.

Code:

```python
# Initialise an array
arr = [10, 20, 30, 40, 50]

# Create: Add an element
def create(arr, element):
    arr.append(element)
    print(f"Added {element}: {arr}")

# Read: Display the array
def read(arr):
    print(f"Array: {arr}")

# Update: Modify an element at a given index
def update(arr, index, new_value):
    if 0 <= index < len(arr):
        arr[index] = new_value
        print(f"Updated index {index} to {new_value}: {arr}")
    else:
        print("Invalid index")

# Delete: Remove an element by value
def delete(arr, value):
    if value in arr:
        arr.remove(value)
        print(f"Deleted {value}: {arr}")
    else:
        print("Value not found in array")

# Perform CRUD operations
create(arr, 80)      # Add 60
read(arr)            # Display array
update(arr, 3, 500)  # Update index 2 to 100
delete(arr, 30)      # Remove 40
```

Exercise 2:Take a user input of numbers to perform a linear search in an array or list.

Linear search mechanism

1.Start from the first element in the list.
2.Check if the current element matches the target.
3.If it matches then return the index of the element
4.If it doesn't match then move to the next element
5.If we reached the end without any match element return -1 the element not in list .

Code:

#linear search ......


```
def len_search(arr,match):
    for i in range(len(arr)):
        if arr[i]== match:
            return match # return if index found
    return -1   # return -1 if index not found



#take a user input
arr = list(map(int, input("Enter numbers separated by space: ").split()))

# Taking user input for the number to search
match = int(input("Enter number to search: "))

# Performing the search
index=len_search(arr,match)

#Displaying the result

if match !=-1:
    print(f"Number {match} is found")
else:
    print(f"Number {match} not found in the list")
```