

Python Programming - 2304CS401

Lab - 5

Understand Working of list

01) Write a program to find the sum of all the elements in the list.

```
In [1]: n=int(input("Enter Size Of List :"))
l1=[]
for i in range(n):
    l1.append(int(input("Enter Elements of list: ")))
sum = 0
for a in l1:
    sum+=a
print(l1)
print(f"Sum is {sum}")
```

```
[10, 20, 30, 40, 50]
Sum is 150
```

02) Write a program to find the smallest and largest element from the list entered by the user

```
In [2]: n=int(input("Enter Size Of List :"))
l1=[]
for i in range(n):
    l1.append(int(input("Enter Elements of list: ")))
max=l1[0]
min=l1[0]
for i in l1:
    if i>max:
        max=i
    elif i<min:
        min=i
print(l1)
print(f"Minimum No is :{min}")
print(f"Maximum No is :{max}")
```

```
[10, 5, 20, 33, 44]
Minimum No is :5
Maximum No is :44
```

03) Write a program to take a list from the user split the list into two and append the first part to the end of the list.

```
In [3]: n=int(input("Enter Size Of List :"))
l1=[]
for i in range(n):
    l1.append(int(input("Enter Elements of list: ")))
l2=l1[n//2:]+l1[:n//2]
print(l1)
print (f"Modified List is:{l2}")
```

```
[10, 20, 30, 40, 50]
Modified List is:[30, 40, 50, 10, 20]
```

04) Write a program to interchange the first and last elements of a list entered by a user.

```
In [4]: n=int(input("Enter Size Of List :"))
l1=[]
for i in range(n):
    l1.append(int(input("Enter Elements of list: ")))
print(f"original list {l1}")
temp=l1[0]
l1[0]=l1[n-1]
l1[n-1]=temp
print(f"Modified List is :{l1}")
```

```
original list [10, 20, 30, 40, 50]
Modified List is :[50, 20, 30, 40, 10]
```

05) Write a program to reverse the list entered by the user

```
In [5]: n=int(input("Enter Size Of List :"))
l1=[]
for i in range(n):
    l1.append(int(input("Enter Elements of list: ")))
print(l1)
l2=l1[::-1]
print(l2)
```

```
[1, 2, 3, 4, 5]
[5, 4, 3, 2, 1]
```

06) Write a program to print all even numbers of the list entered by the user.

```
In [6]: n=int(input("Enter Size Of List :"))
l1=[]
for i in range(n):
    l1.append(int(input("Enter Elements of list: ")))
print(l1)
for i in l1:
    if i%2==0:
        print(i)
```

```
[10, 25, 30, 35, 44]
10
30
44
```

07) Write a program to search for an element in a list.

```
In [7]: n=int(input("Enter Size Of List :"))
search= False
l1=[]
for i in range(n):
    l1.append(int(input("Enter Elements of list: ")))
number = int(input("Enter A Number to be Search :"))
print(l1)
for i in l1:
    if i == number:
        print(f"{number} is Found ..")
        search = True
if search==False:
    print("Element Not Found...")
```

```
[10, 20, 30, 40, 50]
20 is Found ..
```

08) Write a program to sort a list in ascending order

```
In [9]: n=int(input("Enter Size Of List :"))
l1=[]
for i in range(n):
    l1.append(int(input("Enter Elements of list: ")))
print(l1)
for i in range(len(l1)):
    for j in range(i+1,len(l1)):
        if l1[i]> l1[j]:
            l1[i],l1[j]=l1[j],l1[i]
print(f"sorted list is :{l1}")
```

```
[55, 33, 88, 44, 99]
sorted list is :[33, 44, 55, 88, 99]
```

09) Write a program to convert a list of characters entered by the user into a string.

```
In [11]: n=int(input("Enter Size Of List :"))
l1=[]
for i in range(n):
    l1.append(input("Enter Elements of list: "))
print(l1)
str = ''
for i in l1:
    str = str+i
print(str)
```

```
['a', 'b', 'c', 'd', 'e']
abcde
```

10) Write a program to interchange the list elements based on two positions entered by a user

```
In [12]: n=int(input("Enter Size Of List :"))
l1=[]
for i in range(n):
    l1.append(int(input("Enter Elements of list: ")))
ind1=int(input("Enter First Index :"))
ind2=int(input("Enter Second Index :"))
print(l1)
temp=l1[ind1]
l1[ind1]=l1[ind2]
l1[ind2]=temp
print(f"Modified List is :{l1}")
```

```
[11, 12, 13, 14, 15]
Modified List is :[11, 12, 14, 13, 15]
```

11) Write a program to print all odd numbers of the list entered by the user.

```
In [14]: n=int(input("Enter Size Of List :"))
l1=[]
for i in range(n):
    l1.append(int(input("Enter Elements of list: ")))
print(l1)
for i in l1:
    if i%2!=0:
        print(i)
```

```
[11, 12, 13, 14, 15]
11
13
15
```

12) Write a program to enter the name, quantity, and price of five products by a user. Generate and print all the details with the product's total

amount in a formatted manner using list

```
In [1]: product_names = []
quantities = []
prices = []
for i in range(5):
    print(f"Enter Details of Product {i+1}")
    name = input("Enter Product Name :")
    quantity = int(input("Enter Quantity :"))
    price = float(input("Enter Price :"))
    product_names.append(name)
    quantities.append(quantity)
    prices.append(price)
print("\nProduct Details :")
print(f"{'Name':<20} {'Quantity':<10} {'Price':<10} {'Total Amount':<15}")
for i in range(5):
    total_amount = quantities[i] * prices[i]
    print(f"{product_names[i]:<20} {quantities[i]:<10} {prices[i]:<10} {tot
```

```
Enter Details of Product 1
Enter Details of Product 2
Enter Details of Product 3
Enter Details of Product 4
Enter Details of Product 5
```

Product Details :

| Name | Quantity | Price | Total Amount |
|-----------|----------|-------|--------------|
| chocolate | 2 | 10.0 | 20.0 |
| butter | 3 | 30.0 | 90.0 |
| bread | 2 | 27.0 | 54.0 |
| milk | 1 | 50.0 | 50.0 |
| banana | 12 | 5.0 | 60.0 |

