

Python array Notes

List

A list in Python is used to store multiple items in a single variable.

The items are written inside square brackets [] and separated by commas.

A list can store numbers, strings, or mixed data.

Index Number

Each item in a list has an index number (position).

Index numbers start from 0, not 1.

Create a List

```
listname = [item1, item2]
```

Example: Numbers = [1, 2, 3, 4, 5]

 Names = ["warren", "blaker", "kayden"]

Print the List

```
print(Numbers)
```

```
print(Names)
```

To Print a Specific Item in the List

```
print(Numbers[index_no])
```

```
print(Names[index_no])
```

To Add an Element in the List

```
listname.append(value)
```

Example:

```
Numbers.append(12)
```

```
Names.append("rama")
```

To Remove an Element from a List

```
listname.pop(index_no)
```

Example:

```
Numbers.pop(2)
```

```
Names.pop(2)
```

To Print One Element of a List

```
print(listname[index_no])
```

Find Length of a List

```
print(len(names))
```

```
Print(len(numbers))
```

Take List Input from User

```
items = []
```

```
items.append(input("Enter first item: "))
```

```
items.append(input("Enter second item: "))
```

```
print(items)
```

Practical 1: Find the sum of list elements

```
numbers = [2, 4, 6, 8]
total = 0
for num in numbers:
    total = total + num
print("Sum =", total)
```

Practical 2: Find the largest number in a list

```
numbers = [12, 45, 7, 30]
largest = numbers[0]
for num in numbers:
    if num > largest:
        largest = num
print("Largest number =", largest)
```

Practical 3: Count even and odd numbers

```
numbers = [1, 2, 3, 4, 5, 6]
even = 0
odd = 0
for num in numbers:
    if num % 2 == 0:
        even = even + 1
    else:
        odd = odd + 1
print("Even:", even)
print("Odd:", odd)
```

Practical 4: Reverse a list (without using built-in function)

```
numbers = [1, 2, 3, 4]
rev = []
for i in range(len(numbers)-1, -1, -1):
    rev.append(numbers[i])
print(rev)
```

Practical 5: Search an element in a list

```
numbers = [10, 20, 30, 40]
key = 30
found = False
for num in numbers:
    if num == key:
        found = True
if found:
    print("Element found")
else:
    print("Element not found")
```

Practical 6: Remove duplicate elements from a list

```
numbers = [1, 2, 2, 3, 4, 4]
unique = []
for num in numbers:
    if num not in unique:
        unique.append(num)
print(unique)
```

Practical 7: Merge two lists

```
list1 = [1, 2, 3]
```

```
list2 = [4, 5, 6]
```

```
merged = list1 + list2
```

```
print(merged)
```