

## Assignment-1

1.Consider a list (list=[]).you can perform the following commands:

Insert: insert integer at position.

Print: print the list.

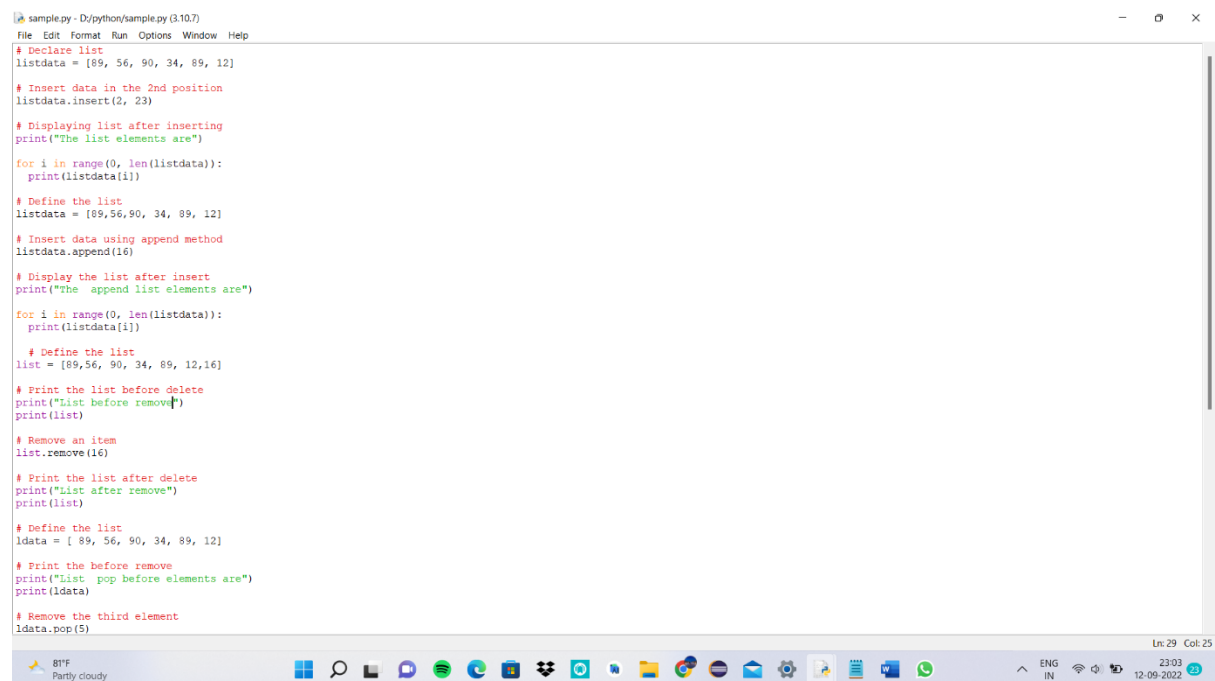
Remove: Delete the first occurrence of integer.

Append: insert integer at the end of the list.

Sort: Sort the list.

Pop: pop the last element from the list.

Reverse: Reverse the list.

A screenshot of a Python IDE window titled 'sample.py - D:\python/sample.py (3.10.7)'. The window contains Python code demonstrating various list operations. The code includes comments and print statements to show the state of the list at each step. The operations performed are: declaring a list, inserting an element at a specific index, displaying the list, appending an element to the end, displaying the list after append, removing an element by value, displaying the list after removal, and popping an element from the end. The Windows taskbar is visible at the bottom, showing the date and time as 23:03 on 12-09-2022.

```
sample.py - D:\python/sample.py (3.10.7)
File Edit Format Run Options Window Help

# Declare list
listdata = [89, 56, 90, 34, 89, 12]

# Insert data in the 2nd position
listdata.insert(2, 23)

# Displaying list after inserting
print("The list elements are")

for i in range(0, len(listdata)):
    print(listdata[i])

# Define the list
listdata = [89,56,90, 34, 89, 12]

# Insert data using append method
listdata.append(16)

# Display the list after insert
print("The append list elements are")

for i in range(0, len(listdata)):
    print(listdata[i])

# Define the list
list = [89,56, 90, 34, 89, 12,16]

# Print the list before delete
print("List before remove")
print(list)

# Remove an item
list.remove(16)

# Print the list after delete
print("List after remove")
print(list)

# Define the list
ldata = [ 89, 56, 90, 34, 89, 12]

# Print the before remove
print("List pop before elements are")
print(ldata)

# Remove the third element
ldata.pop(5)
```

```
sample.py - D:/python/sample.py (3.10.7)
File Edit Format Run Options Window Help
print(list)

# Remove an item
list.remove(16)

# Print the list after delete
print("List after remove")
print(list)

# Define the list
ldata = [ 89, 56, 90, 34, 89, 12]

# Print the before remove
print("List pop before elements are")
print(ldata)

# Remove the third element
ldata.pop(5)

# Print the list after remove
print("List pop after elements are")
print(ldata)

def Reverse(list):
    new_list = list[::-1]
    return new_list

lst = [89, 56, 90, 34, 89, 12]
print("List the reverse elements are")
print(Reverse(lst))

lis = ['Cloud', 'Development']
lis.insert(1, "Application")
print("List the insert elements are")
print(lis)

prime_numbers = [11, 3, 7, 5, 2]

prime_numbers = [11, 3, 7, 5, 2]

# sorting the list in ascending order
prime_numbers.sort()
print("List the sort elements are")
print(prime_numbers)
```

Ln: 29 Col: 25

81°F Partly cloudy

## Output:

```
IDLE Shell 3.10.7
File Edit Shell Debug Options Window Help
Python 3.10.7 (tags/v3.10.7:6cc6b13, Sep 5 2022, 14:08:36) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/python/sample.py =====
The list elements are
89
56
23
90
34
89
12
The append list elements are
89
56
90
34
89
12
16
List before remove
[89, 56, 90, 34, 89, 12, 16]
List after remove
[89, 56, 90, 34, 89, 12]
List pop before elements are
[89, 56, 90, 34, 89, 12]
List pop after elements are
[89, 56, 90, 34, 89]
List the reverse elements are
[12, 89, 34, 90, 56, 89]
List the insert elements are
['Cloud', 'Application', 'Development']
List the sort elements are
[2, 3, 5, 7, 11]
>>>
```

Ln: 35 Col: 0

81°F Partly cloudy

## 2. Write a Calculator Program In Python?

```
sample.py - D:/python/sample.py (3.10.7)
File Edit Format Run Options Window Help

    return x - y

# This function multiplies two numbers
def multiply(x, y):
    return x * y

# This function divides two numbers
def divide(x, y):
    return x / y

print("Select operation.")
print("1.Add")
print("2.Subtract")
print("3.Multiply")
print("4.Divide")

while True:
    # take input from the user
    choice = input("Enter choice(1/2/3/4): ")

    # check if choice is one of the four options
    if choice in ('1', '2', '3', '4'):
        num1 = float(input("Enter first number: "))
        num2 = float(input("Enter second number: "))

        if choice == '1':
            print(num1, "+", num2, "=", add(num1, num2))

        elif choice == '2':
            print(num1, "-", num2, "=", subtract(num1, num2))

        elif choice == '3':
            print(num1, "*", num2, "=", multiply(num1, num2))

        elif choice == '4':
            print(num1, "/", num2, "=", divide(num1, num2))

        # check if user wants another calculation
        # break the while loop if answer is no
        next_calculation = input("Let's do next calculation? (yes/no): ")
        if next_calculation == "no":
            break

    else:
        print("Invalid Input")
```

Output:

```
*IDLE Shell 3.10.7*
File Edit Shell Debug Options Window Help

Python 3.10.7 (tags/v3.10.7:6cc6b13, Sep 5 2022, 14:08:36) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/python/sample.py =====
Select operation.
1.Add
2.Subtract
3.Multiply
4.Divide
Enter choice(1/2/3/4): 3
Enter first number: 15
Enter second number: 36
15.0 * 36.0 = 540.0
Let's do next calculation? (yes/no): yes
Enter choice(1/2/3/4): 1
Enter first number: 3
Enter second number: 6
3.0 + 6.0 = 9.0
Let's do next calculation? (yes/no): yes
Enter choice(1/2/3/4): 4
Enter first number: 87
Enter second number: 90
87.0 / 90.0 = 0.9666666666666667
Let's do next calculation? (yes/no): yes
Enter choice(1/2/3/4): 2
Enter first number: 87
Enter second number: 56
87.0 - 56.0 = 31.0
Let's do next calculation? (yes/no):
```

### 3. Write a Program to Concatenate, reverse and slice a String?

```
sample.py - D:/python/sample.py (3.10.7)
File Edit Format Run Options Window Help

# initializing string
test_str = "Cloud Application Development"

# printing original string
print("The original string is : " + test_str)

# initializing K
K = 7

# Using join() + reversed()
# Reverse Slicing string
res = ''.join(reversed(test_str[0:K]))

# printing result
print("The reversed sliced string is : " + res)

x = "Python is "
y = "awesome"
z = x + y
print(z)
```

Ln: 1 Col: 0

#### Output:

```
IDLE Shell 3.10.7
File Edit Shell Debug Options Window Help

Python 3.10.7 (tags/v3.10.7:6cc6b13, Sep 5 2022, 14:08:36) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/python/sample.py =====
The original string is : Cloud Application Development
The reversed sliced string is : A duolC
Python is awesome
>>>
```

Ln: 8 Col: 0

#### 4. Why Python a Popular Programming Language?

1. Python is a general Purpose, high level, interpreted and object oriented Scripting Language.
2. For beginner's python is the best Language to learn and it support wide range of applications from simple text processing to worldwide web browsers to public to games.
3. Python used for developing wide range applications such as,
  - Web development
  - Scientific and numeric computing
  - Data Analytics
  - Automation Application and so on.

#### 5.What are the other Frameworks that can be used with python?

- Django
- Bottle
- Pyramid
- Web2py

#### 6.Full Form of WSGI?

- WSGI-Web Server Gateway Interface.
- It is a specification that describes how a web server communicates with web applications, how web applications can be chained together to process one request.