Sai Sudarshan S
195001309

IBM PYTHON ASSIGNMENT 1

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

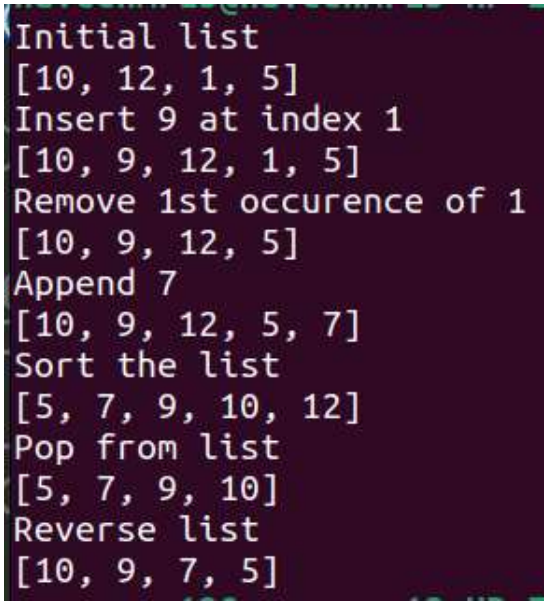
1. insert i e: Insert integer at position.
2. print: Print the list.
3. remove e:
4. Delete the first occurrence of integer.
5. append e: Insert integer at the end of the list.
6. sort: Sort the list.
7. pop: Pop the last element from the list.
8. reverse: Reverse the list.

Initialize your list and read in the value followed by lines of commands where each command will be of the types listed above. Iterate through each command in order and perform the corresponding operation on your list.

Source code:

```
def print_list(list,operation):
   print(operation)
   print(list)

list = [10,12,1,5]
print_list(list,"Initial list")

list.insert(1,9)
print_list(list,"Insert 9 at index 1")

list.remove(1)
print_list(list,"Remove 1st occurence of 1")

list.append(7)
print_list(list,"Append 7")

list.sort()
print_list(list,"Sort the list")

list.pop()
print_list(list,"Pop from list")

list.reverse()
print_list(list,"Reverse list")
```

OUTPUT:



Write a program to concatenate, reverse and slice a string?

Concatenate:

```
if__name__ == "__main__":
   s1 = input("Enter String1: ")
   s2 = input("Enter String2: ")
   s = s1+s2
   print("Concatenated String:  ",end="")
   print(s)
```

Output:

```
naveenmr13@naveenmr13-HP-EliteBook-840-G3:~/Work/CP/Tree$ python3 module3.py
Enter String1: Naveen
Enter String2: noone
Concatenated String:  Naveennoone
```

Reverse:

```
if__name__== "__main__":
   s = input("Enter String: ")
   print("Original String: ",end="")
   print(s)
```

```
    str = ""
    for i in s:
        str = i+str
    print("Reversed String: ",end="")
    print(str)
```

Output:

```
naveenmr13@naveenmr13-HP-EliteBook-840-G3:~/Work/CP/Tree$ python3 module3.py
Enter String: Rohit
Original String: Rohit
Reversed String: tihoR
```

Slice:

```
if __name__== "__main__":
    s = input("Enter String: ")
    n = len(s)
    print("Select The Ranges from 0 to",n)
    l = int(input("Enter Start Index: "))
    r = int(input("Enter End Index: "))
    print(s[l:r])
```

Output:

```
naveenmr13@naveenmr13-HP-EliteBook-840-G3:~/Work/CP/Tree$ python3 module3.py
Enter String: Hello world
Select The Ranges from 0 to 11
Enter Start Index: 2
Enter End Index: 8
llo wo
```

Write a Calculator program in Python?

Source Code:

```
#Write a Calculator program in Python?

def add(P, Q):
  # This function is used for adding two numbers
  return P + Q
def subtract(P, Q):
  # This function is used for subtracting two numbers
  return P - Q
def multiply(P, Q):
  # This function is used for multiplying two numbers
  return P * Q
def divide(P, Q):
  # This function is used for dividing two numbers
  return P / Q
# Now we will take inputs from the user
print ("Please select the operation.")
print ("a. Add")
print ("b. Subtract")
print ("c. Multiply")
print ("d. Divide")

choice = input("Please enter choice (a/ b/ c/ d): ")

num_1 = int (input ("Please enter the first number: "))
num_2 = int (input ("Please enter the second number: "))

if choice == 'a':
  print (num_1, " + ", num_2, " = ", add(num_1, num_2))

elif choice == 'b':
  print (num_1, " - ", num_2, " = ", subtract(num_1, num_2))

elif choice == 'c':
  print (num_1, " * ", num_2, " = ", multiply(num_1, num_2))
elif choice == 'd':
  print (num_1, " / ", num_2, " = ", divide(num_1, num_2))
else:
  print ("This is an invalid input")
```

Output:

```
Please select the operation.
a. Add
b. Subtract
c. Multiply
d. Divide
Please enter choice (a/ b/ c/ d): b
Please enter the first number: 6
Please enter the second number: 3
6  -  3  =  3
```

```
Please select the operation.
a. Add
b. Subtract
c. Multiply
d. Divide
Please enter choice (a/ b/ c/ d): d
Please enter the first number: 6
Please enter the second number: 3
6  /  3  =  2.0
```

```
Please select the operation.
a. Add
b. Subtract
c. Multiply
d. Divide
Please enter choice (a/ b/ c/ d): c
Please enter the first number: 6
Please enter the second number: 3
6  *  3  =  18
```

```
Please select the operation.
a. Add
b. Subtract
c. Multiply
d. Divide
Please enter choice (a/ b/ c/ d): a
Please enter the first number: 6
Please enter the second number: 6
6  +  6  =  12
```

Why is Python a popular programming language?

1. Python is a scripted, object oriented and interpreted language.
2. It can be used for web development, app development, and data visualization.
3. It is also used in fields of Machine Learning and Artificial Intelligence.

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

1. Django
2. Web2Py
3. Flask
4. Bottle
5. CherryPy

Full form of WSGI?

The Web Server Gateway Interface.