IBM

ASSIGNMENT-1

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Consider a list (list = []). You can perform the following commands: insert i e: Insert integer at position . print: Print the list. remove e: Delete the first occurrence of integer . append e: Insert integer at the end of the list. sort: Sort the list. pop: Pop the last element from the list. 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.

CODE:

```python
if __name__ == '__main__':
    N = int(input())
    lists = []
    for i in range(N):
        a = list(map(str,input().split( )))
        lists.append(a)
    arr = []
    for x in lists:
        if x[0] == "insert":
            i = int(x[1])
            e = int(x[2])
            arr.insert(i,e)
        elif x[0] == "print":
            print(arr)
```

```python
    elif x[0] == "remove":

        e = int(x[1])

        arr.remove(e)

    elif x[0] == "append":

        e = int(x[1])

        arr.append(e)

    elif x[0] == "sort":

        arr.sort()

    elif x[0] == "pop":

        arr.pop()

    elif x[0] == "reverse":

        arr.reverse()
```

OUTPUT:

```
15
insert 0 7
insert 1 4
insert 2 8
insert 3 6
print
remove 4
remove 6
append 12
append 9
sort
print
pop
reverse
print

[7, 4, 8, 6]
[7, 8, 9, 12]
[9, 8, 7]
```

Write a Calculator program in Python?

CODE:

```python
def add(P, Q):
    return P + Q
def subtract(P, Q):
    return P - Q
def multiply(P, Q):
    return P * Q
def divide(P, Q):
    return P / Q
print ("Select the operation given below.")
print ("1. Add")
print ("2. Subtract")
print ("3. Multiply")
print ("4. Divide")
choice = input("Enter the operation: ")
num_1 = int (input ("Enter First number: "))
num_2 = int (input ("Enter the second number: "))
if choice == '1':
    print (num_1, " + ", num_2, " = ", add(num_1, num_2))
elif choice == '2':
    print (num_1, " - ", num_2, " = ", subtract(num_1, num_2))
elif choice == '3':
    print (num_1, " * ", num_2, " = ", multiply(num_1, num_2))
elif choice == '4':
    print (num_1, " / ", num_2, " = ", divide(num_1, num_2))
else:
    print ("This is an invalid input")
```

OUTPUT:

```
Select the operation given below.
1. Add
2. Subtract
3. Multiply
4. Divide
Enter the operation: 1
Enter First number: 12
Enter the second number: 15
12  +  15  =  27
```

```
Select the operation given below.
1. Add
2. Subtract
3. Multiply
4. Divide
Enter the operation: 2
Enter First number: 43
Enter the second number: 18
43  -  18  =  25
```

```
Select the operation given below.
1. Add
2. Subtract
3. Multiply
4. Divide
Enter the operation: 3
Enter First number: 12
Enter the second number: 13
12  *  13  =  156
```
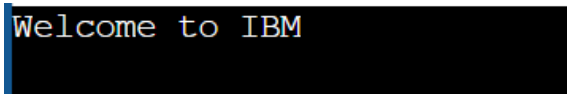
```
Select the operation given below.
1. Add
2. Subtract
3. Multiply
4. Divide
Enter the operation: 4
Enter First number: 21
Enter the second number: 4
21  /  4  =  5.25
```

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

Concatenate of String:

var1 = "Hello "

var2 = "World"

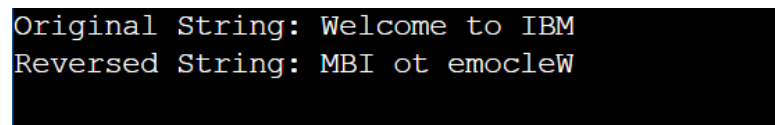var3 = var1 + var2

print(var3)

OUTPUT:

```
Welcome to IBM
```

Reverse of a String:

CODE:

```
def reverse(s):
    str = ""
    for i in s:
        str = i + str
    return str
s = "Welcome to IBM"
print("Original String: ", end="")
print(s)
print("Reversed String: ", end="")
print(reverse(s))
```

OUTPUT:

```
Original String: Welcome to IBM
Reversed String: MBI ot emocleW
```
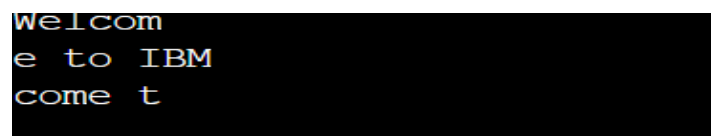
Slice:

String = 'Helloworld'

print(String[:5])

print(String[5:])

print(String[2:6])

OUTPUT:

```
Welcom
e to IBM
come t
```

Why is Python a popular programming language?

● It has simplified syntax and not complicated, which gives more emphasis on natural language.

● Python is a scripted, object oriented and interpreted language.

● It can be used for web development, app development, and data visualization.

● It is also used in fields of Machine Learning and Artificial Intelligence.

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

● Django

● Web2Py

● Flask

● Bottle

● Gork

● CherryPy

Full form of WSGI?

The Web Server Gateway Interface.