

# 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:

```
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)
```

```
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:**

```
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
```

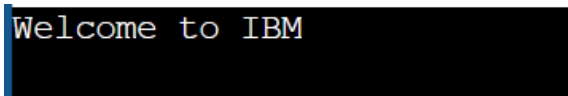
```
Select the operation given below.  
1. Add  
2. Subtract  
3. Multiply  
4. Divide  
Enter the operation: 4  
Enter First number: 21  
Enter the second number: 4  
21 / 4 = 5.25
```

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

**Concatenate of String:**

```
var1 = "Hello "  
var2 = "World"  
var3 = var1 + var2  
print(var3)
```

**OUTPUT:**



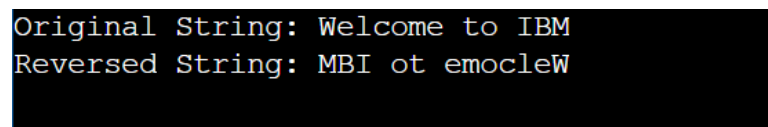
```
Welcome to IBM
```

**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.