Python Assignment

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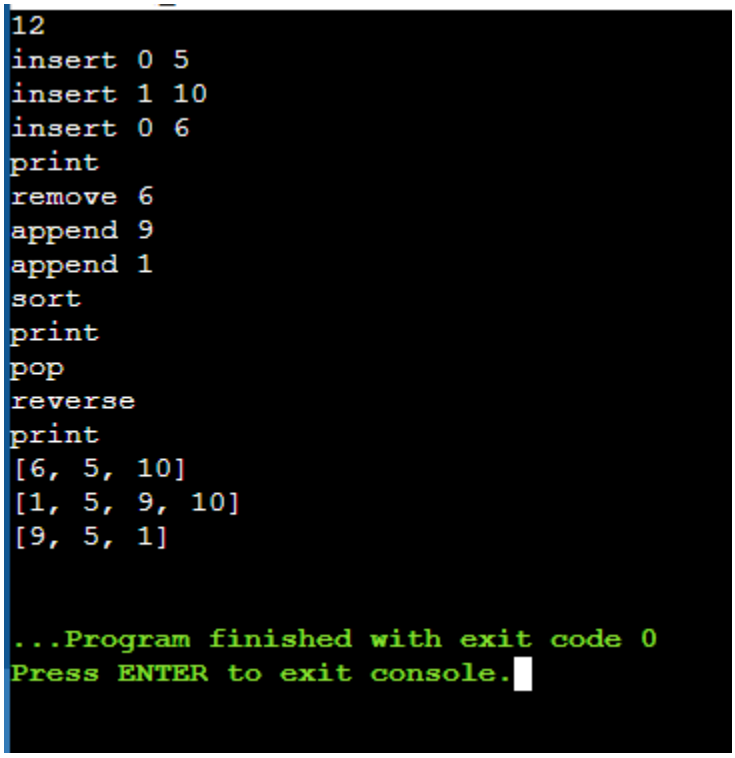
Consider a list (list = []). You can perform the following commands:
insert i e: Insert integer at position .
print: Print the list.
remove e: Delete the first occurrence of integer .
append e: Insert integer at the end of the list.
sort: Sort the list.
pop: Pop the last element from the list.
reverse: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

```
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":
```

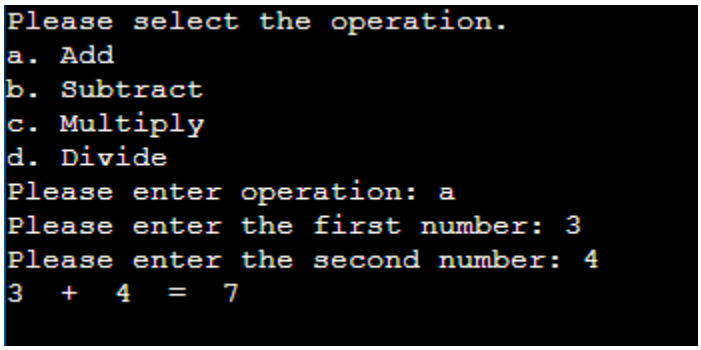
```
        e = int(x[1])
        arr.remove(e)

    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()
```



Write a Calculator program in 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 ("Please select the operation.")
print ("a. Add")
print ("b. Subtract")
print ("c. Multiply")
print ("d. Divide")

choice = input("Please enter operation: ")

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")
```



```
Please select the operation.
a. Add
b. Subtract
c. Multiply
d. Divide
Please enter operation: b
Please enter the first number: 10
Please enter the second number: 5
10  -  5  =  5
```

```
Please select the operation.
a. Add
b. Subtract
c. Multiply
d. Divide
Please enter operation: c
Please enter the first number: 12
Please enter the second number: 2
12  *  2  =  24
```

```
Please select the operation.
a. Add
b. Subtract
c. Multiply
d. Divide
Please enter operation: d
Please enter the first number: 25
Please enter the second number: 5
25  /  5  =  5.0
```

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

Concatenate:

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

```
Hello World


...Program finished with exit code 0
Press ENTER to exit console.
```

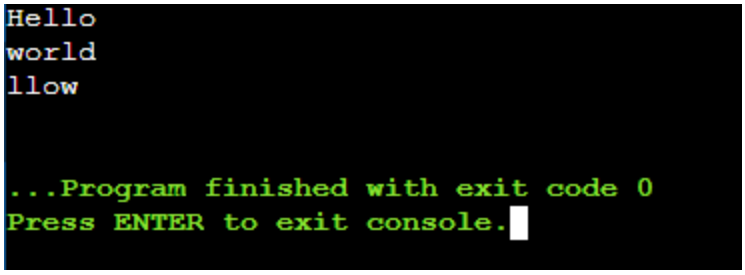
Reverse:

```
def reverse(s):
    str = ""
    for i in s:
        str = i + str
    return str

s = "Helloworld"

print("Original String:  ", end="")
print(s)

print("Reversed String: ", end="")
print(reverse(s))
```

```
Original String:  Helloworld
Reversed String: dlrowolleH


...Program finished with exit code 0
Press ENTER to exit console.
```

Slice:

```
String = 'Helloworld'
print(String[:5])
print(String[5:])
print(String[2:6])
```



Why is Python a popular programming 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
- CherryPy

Full form of WSGI?

The Web Server Gateway Interface