

Assignment -1
Python Programming

Assignment Date	12 September 2022
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Student Roll Number	820419104064
Maximum Marks	2 Marks

Question-1:

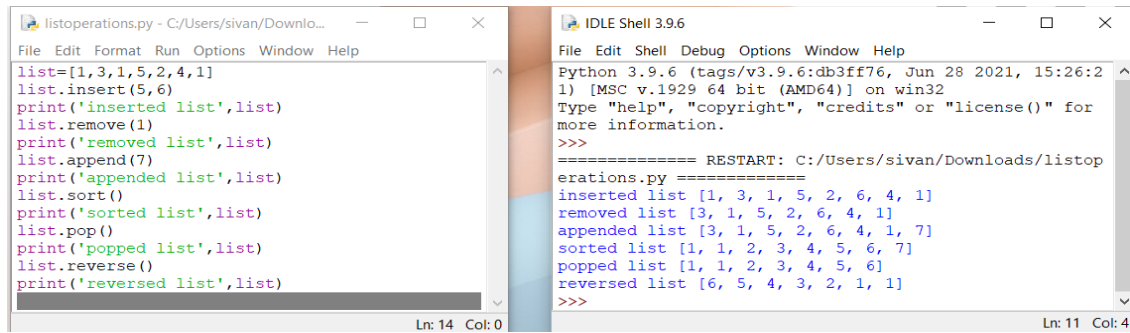
Consider a list (list = []). You can perform the following commands:

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

Initialize your list and read in the value of n followed by n lines of commands where each command will be of the 7 types listed above. Iterate through each command in order and perform the corresponding operation on your list.

Solution:

```
list=[1,3,1,5,2,4,1]
list.insert(5,6)
print('inserted list',list)
list.remove(1)
print('removed list',list)
list.append(7)
print('appended list',list)
list.sort()
print('sorted list',list)
list.pop()
print('popped list',list)
list.reverse()
print('reversed list',list)
```



The screenshot shows a Python IDE with two windows. The left window, titled 'listoperations.py', contains the following code:

```
list=[1,3,1,5,2,4,1]
list.insert(5,6)
print('inserted list',list)
list.remove(1)
print('removed list',list)
list.append(7)
print('appended list',list)
list.sort()
print('sorted list',list)
list.pop()
print('popped list',list)
list.reverse()
print('reversed list',list)
```

The right window, titled 'IDLE Shell 3.9.6', shows the output of the code after a restart:

```
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/sivan/Downloads/listop
erations.py =====
inserted list [1, 3, 1, 5, 2, 6, 4, 1]
removed list [3, 1, 5, 2, 6, 4, 1]
appended list [3, 1, 5, 2, 6, 4, 1, 7]
sorted list [1, 1, 2, 3, 4, 5, 6, 7]
popped list [1, 1, 2, 3, 4, 5, 6]
reversed list [6, 5, 4, 3, 2, 1, 1]
>>>
```

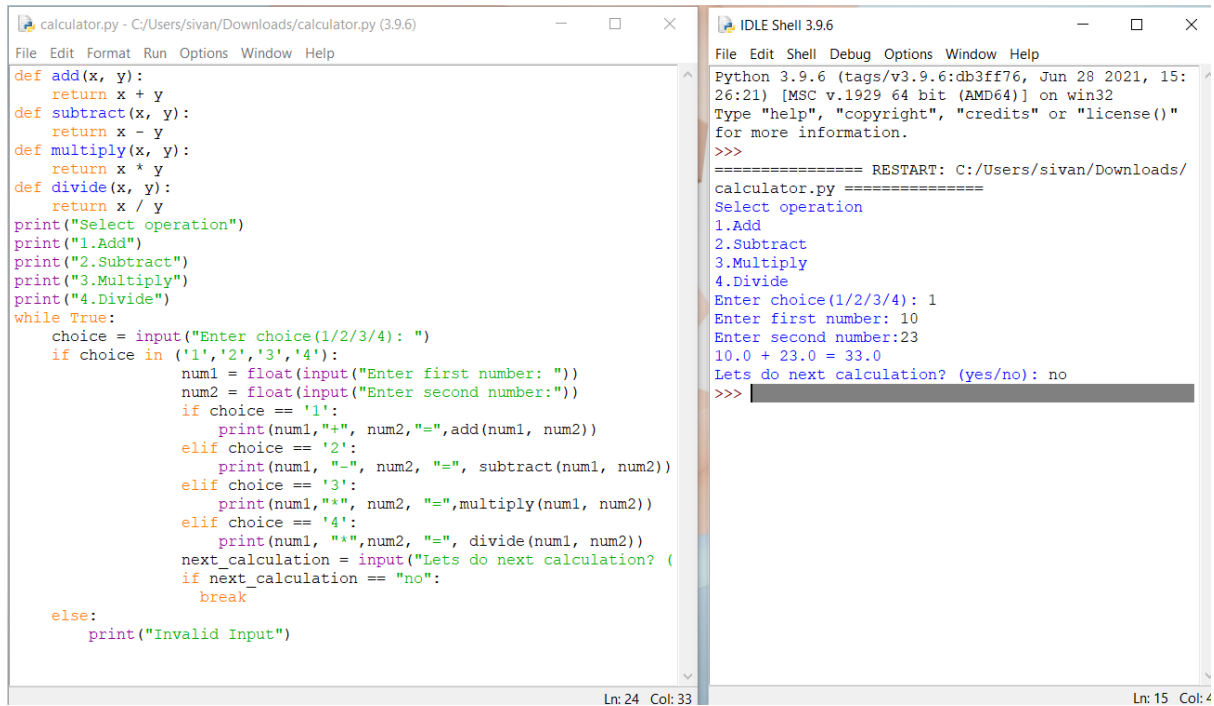
Question-2:

Write a calculator program in python

Solution:

```
def add(x,y):
    return x+y
def subtract(x,y):
    return x-y
def multiply(x,y):
    return x*y
def divide(x,y):
    return x/y
print("Select operation")
print("1.Add")
print("2.Subtract")
print("3.Multiply")
print("4.Divide")
While True:
    choice = input("Enter choice(1/2/3/4):")
    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))
        next_calculation = input("Let's do next calculation?(yes/no):")
        if next_calculation == " no ":
            break
```

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



```
calculator.py - C:/Users/sivan/Downloads/calculator.py (3.9.6)
File Edit Format Run Options Window Help

def add(x, y):
    return x + y
def subtract(x, y):
    return x - y
def multiply(x, y):
    return x * y
def divide(x, y):
    return x / y
print("Select operation")
print("1.Add")
print("2.Subtract")
print("3.Multiply")
print("4.Divide")
while True:
    choice = input("Enter choice(1/2/3/4): ")
    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))
        next_calculation = input("Lets do next calculation? (yes/no): ")
        if next_calculation == "no":
            break
    else:
        print("Invalid Input")

Ln: 24 Col: 33

IDLE Shell 3.9.6
File Edit Shell Debug Options Window Help

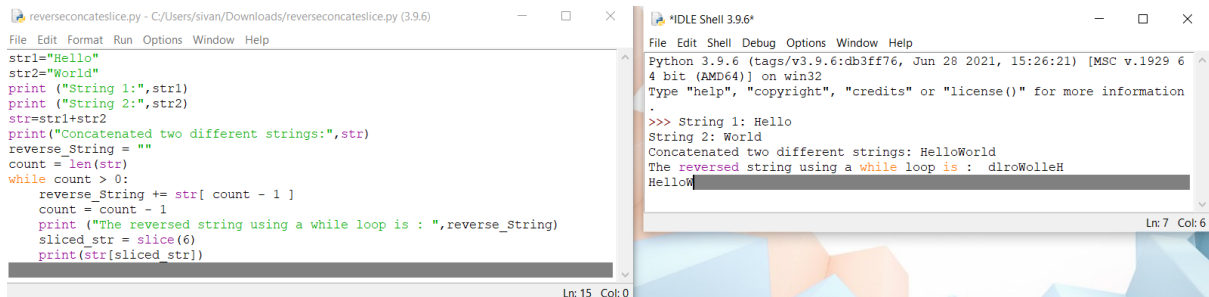
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/sivan/Downloads/calculator.py =====
Select operation
1.Add
2.Subtract
3.Multiply
4.Divide
Enter choice(1/2/3/4): 1
Enter first number: 10
Enter second number:23
10.0 + 23.0 = 33.0
Lets do next calculation? (yes/no): no
>>>
```

Question-3:

Write a program to concatenate , reverse and slice a string in python

Solution:

```
str1 = "Hello"
str2 = "World"
print("String 1:",str1)
print("String 2:",str2)
str = str1+str2
print("Concatenated two different strings:",str)
reverse_String = ""
count = len(str)
while count > 0:
    reverse_String += str[ count - 1 ]
    count = count - 1
print ("The reversed string using a while loop is : ",reverse_String)
sliced_str = slice(6)
print(str[sliced_str])
```

The image shows a screenshot of a Python script editor and its execution. On the left, a file named 'reverseconcatenateslice.py' is open, showing Python code that concatenates 'Hello' and 'World' and then reverses the result using a while loop. On the right, the IDLE Shell window shows the output of the script: 'String 1: Hello', 'String 2: World', 'Concatenated two different strings: HelloWorld', and 'The reversed string using a while loop is : dlroWolleH'.

```
reverseconcatenateslice.py - C:/Users/sivan/Downloads/reverseconcatenateslice.py (3.9.6)
File Edit Format Run Options Window Help
str1="Hello"
str2="World"
print ("String 1:",str1)
print ("String 2:",str2)
str=str1+str2
print("Concatenated two different strings:",str)
reverse_String = ""
count = len(str)
while count > 0:
    reverse_String += str[ count - 1 ]
    count = count - 1
print ("The reversed string using a while loop is : ",reverse_String)
sliced_str = slice(6)
print(str[sliced_str])

Ln: 15 Col: 0

IDLE Shell 3.9.6*
File Edit Shell Debug Options Window Help
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information
>>> String 1: Hello
String 2: World
Concatenated two different strings: HelloWorld
The reversed string using a while loop is : dlroWolleH
Hello
```

Question-4:

Why python is popular programming language

Python has a simple syntax and in form of natural english language which helps lot of people to get a hold of what is coding in their first experience. it is highly flexible, reliable and fast to code.

Question-5:

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

Bottle, Flask, Django, Web2py, AIOHTTP, CherryPy, Dash Falcon

Question-6:

Full Form of WSGI

WSGI stands for Web Server Gateway Interface