

Assignment -3
Python Programming

Assignment Date	19 September 2022
Student Name	Sathya Jayasri S
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)
```

```
listoperations.py - C:/Users/sivan/Downlo...
File Edit Format Run Options Window Help
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)
Ln: 14 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.
>>>
===== 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]
>>>
Ln: 11 Col: 4
```

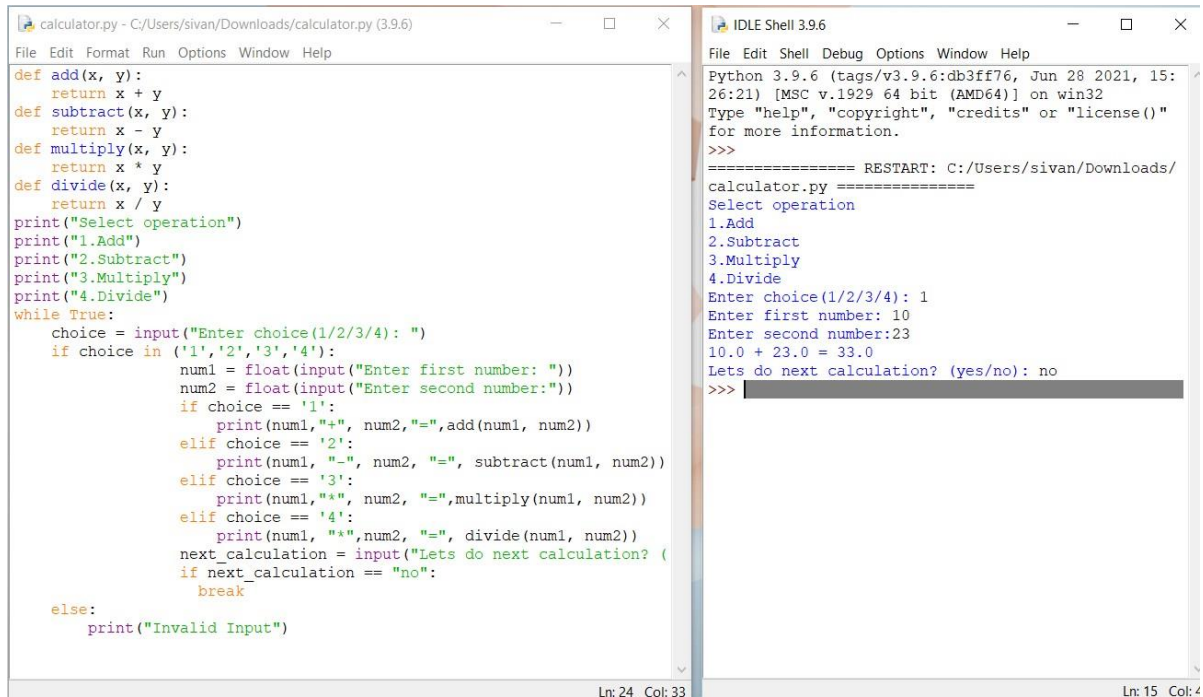
Question-2:

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 ")



The screenshot shows two windows from a Python IDE. The left window, titled 'calculator.py - C:/Users/sivan/Downloads/calculator.py (3.9.6)', contains the source code for a simple calculator. It defines functions for addition, subtraction, multiplication, and division, and uses a while loop to repeatedly prompt the user for operations and numbers. The right window, titled 'IDLE Shell 3.9.6', shows the program's execution. It displays the Python version, a restart message, a menu of operations, and the results of calculations: 10.0 + 23.0 = 33.0. The prompt 'Lets do next calculation? (yes/no): no' is shown, and the shell ends with '>>>'.

```
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? ")
        if next_calculation == "no":
            break
    else:
        print("Invalid Input")
Ln: 24 Col: 33

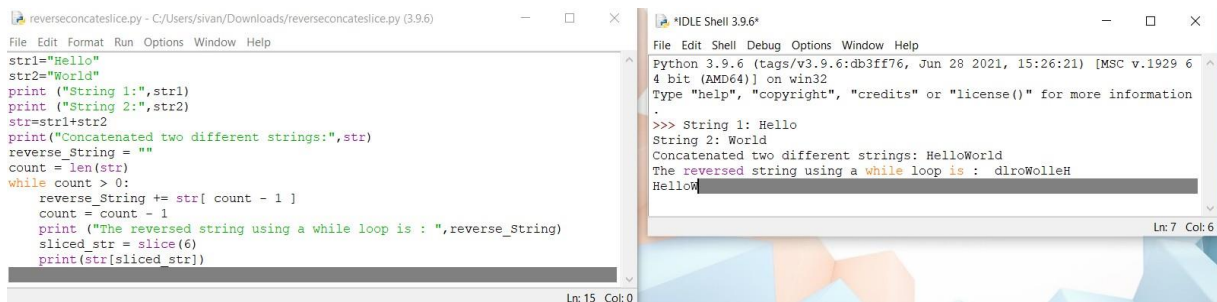
IDLE Shell 3.9.6
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26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()"
for more information.
>>>
===== RESTART: C:/Users/sivan/Downloads/
calculator.py =====
Select operation
1.Add
2.Subtract
3.Multiply
4.Divide
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 two windows from the IDLE Python environment. The left window, titled 'reverseconcatenateslice.py - C:/Users/sivan/Downloads/reverseconcatenateslice.py (3.9.6)', contains a Python script. The script defines two strings, 'Hello' and 'World', concatenates them into 'HelloWorld', and then reverses the concatenated string using a while loop to produce 'dlrowolleH'. The right window, titled 'IDLE Shell 3.9.6', shows the execution of the script, displaying the output of each print statement: 'String 1: Hello', 'String 2: World', 'Concatenated two different strings: HelloWorld', and 'The reversed string using a while loop is : dlrowolleH'.

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