

**Assignment - 4**  
Python Programming

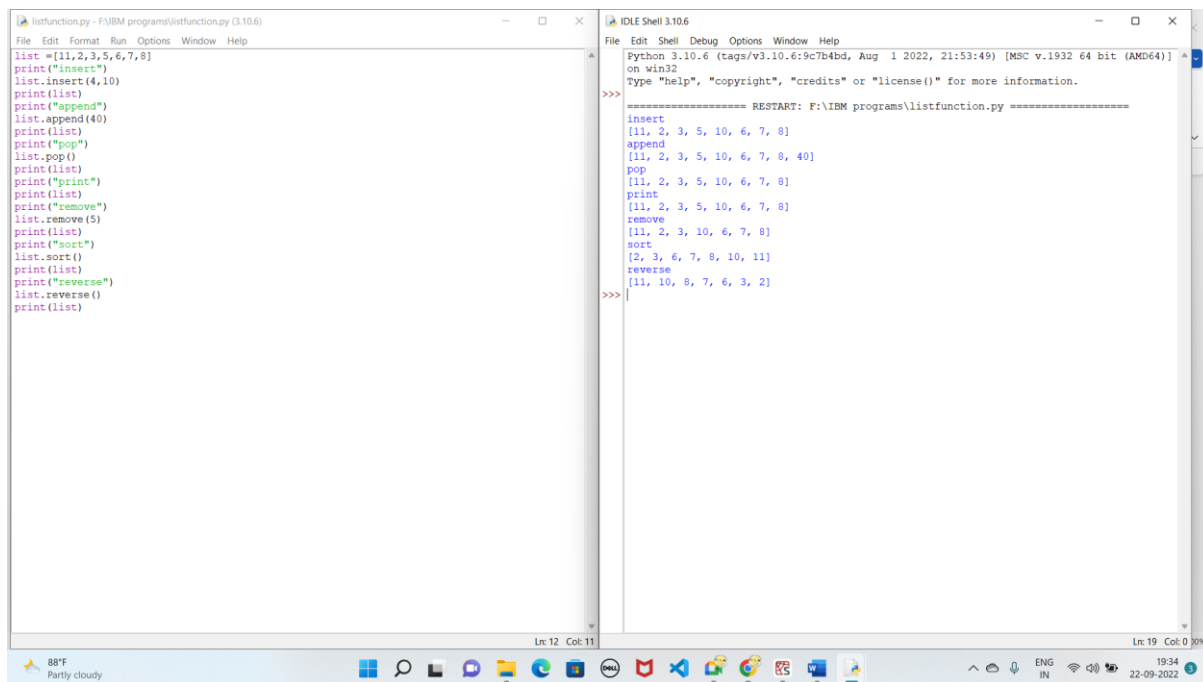
Assignment Date	19 September 2022
Student Name	Ms.Nithyashree R
Student Roll Number	820419104046
Maximum Marks	2 Marks

**Question-1:**

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 of 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.

**Solution:**

```
list=[11,2,3,5,6,7,8]
print("insert")
list.insert(4,10)
print(list)
print("append")
list.append(40)
print(list)
print("pop")
list.pop()
print(list)
print("print")
print(list)
print("remove")
list.remove(5)
print(list)
print("sort")
list.sort()
print(list)
print("reverse")
list.reverse()
print(list)
```



## 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 a Python IDE with two windows. The left window, titled 'calculator.py - F:\IBM programs\calculator.py (3.10.6)', contains the source code for a calculator. The code defines functions for addition, subtraction, multiplication, and division, and a main loop that prompts the user to select an operation and enter two numbers. The right window, titled 'IDLE Shell 3.10.6', shows the program's execution. It displays the prompt 'Select operation.' followed by the user's choice '1' for addition. It then prompts for the first and second numbers, which are '2' and '3' respectively. The result '2.0 \* 3.0 = 6.0' is displayed, and the program asks 'Let's do next calculation? (yes/no): no'.

```

calculator.py - F:\IBM programs\calculator.py (3.10.6)
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("Let's do next calculation? (yes/no): ")
        if next_calculation == "no":
            break
    else:
        print("Invalid Input")

IDLE Shell 3.10.6
File Edit Shell Debug Options Window Help

Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug 1 2022, 21:53:49) [MSC v.1932 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
===== RESTART: F:\IBM programs\calculator.py =====
Select operation.
1.Add
2.Subtract
3.Multiply
4.Divide
Enter choice(1/2/3/4): 3
Enter first number: 2
Enter second number: 3
2.0 * 3.0 = 6.0
Let's do next calculation? (yes/no): no
>>>

```

### Question-3:

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

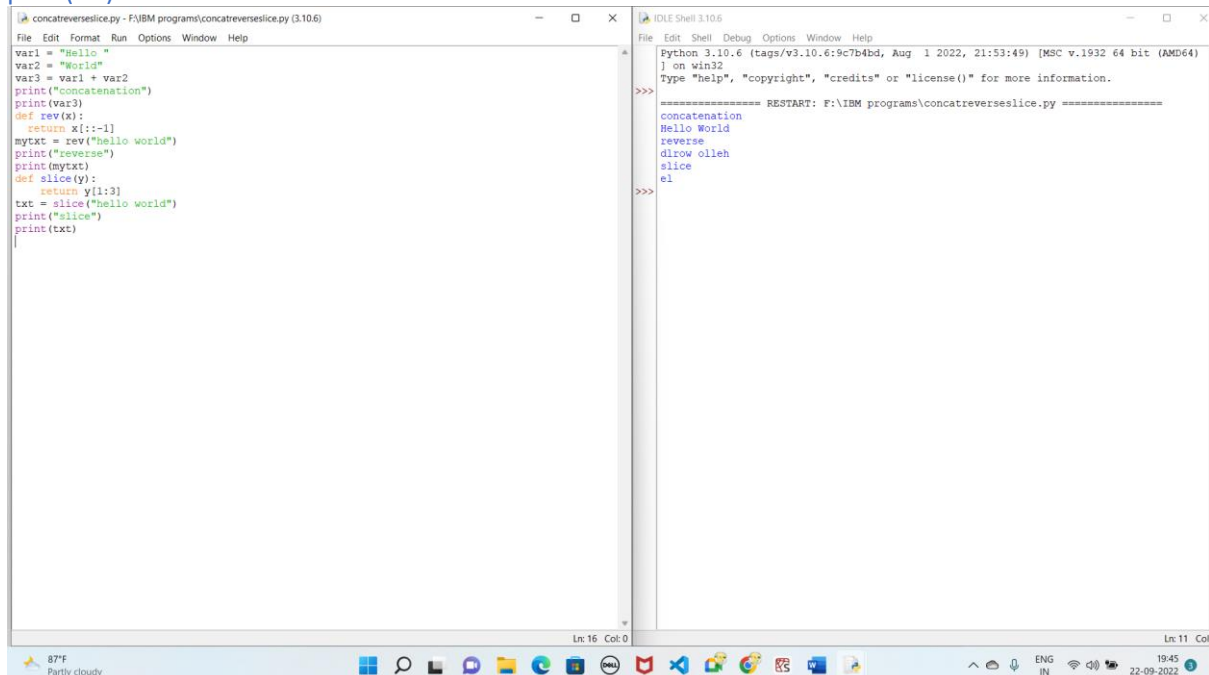
#### Solution:

```

var1 = "Hello "
var2 = "World"
var3 = var1 + var2
print("concatenation")
print(var3)
def rev(x):
    return x[::-1]
mytxt = rev("hello world")
print("reverse")
print(mytxt)
def slice(y):
    return y[1:3]

```

```
txt = slice("hello world")
print("slice")
print(txt)
```



The screenshot shows an IDE with two windows. The left window, titled 'concatreverseslice.py - F:\IBM programs\concatreverseslice.py (3.10.6)', contains the following Python code:

```
var1 = "Hello "
var2 = "World"
var3 = var1 + var2
print("concatenation")
print(var3)
def rev(x):
    return x[::-1]
mytxt = rev("hello world")
print("reverse")
print(mytxt)
def slice(y):
    return y[1:3]
txt = slice("hello world")
print("slice")
print(txt)
```

The right window, titled 'IDLE Shell 3.10.6', shows the output of the script after execution:

```
Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug 1 2022, 21:53:49) [MSC v.1932 64 bit (AMD64)]
>>>
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: F:\IBM programs\concatreverseslice.py =====
concatenation
Hello World
reverse
dlrow olleh
slice
el
>>>
```

#### Question-4:

Why is Python a popular programming language?

##### Solution:

Due to its ease of learning and usage, Python codes can easily be written and executed much faster than other programming languages. One of the main reasons why Python's popularity has exponentially grown is due to its simplicity in syntax so that it could be easy to read and developed by amateur professionals as well.

#### Question-5:

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

##### Solution:

Examples of Python frameworks that support WSGI include Django, CherryPy, Flask, TurboGears, and web2py.

#### Question-6:

Full form of WSGI?

##### Solution:

Web Server Gateway Interface.