

Assignment - 3
Python Programming

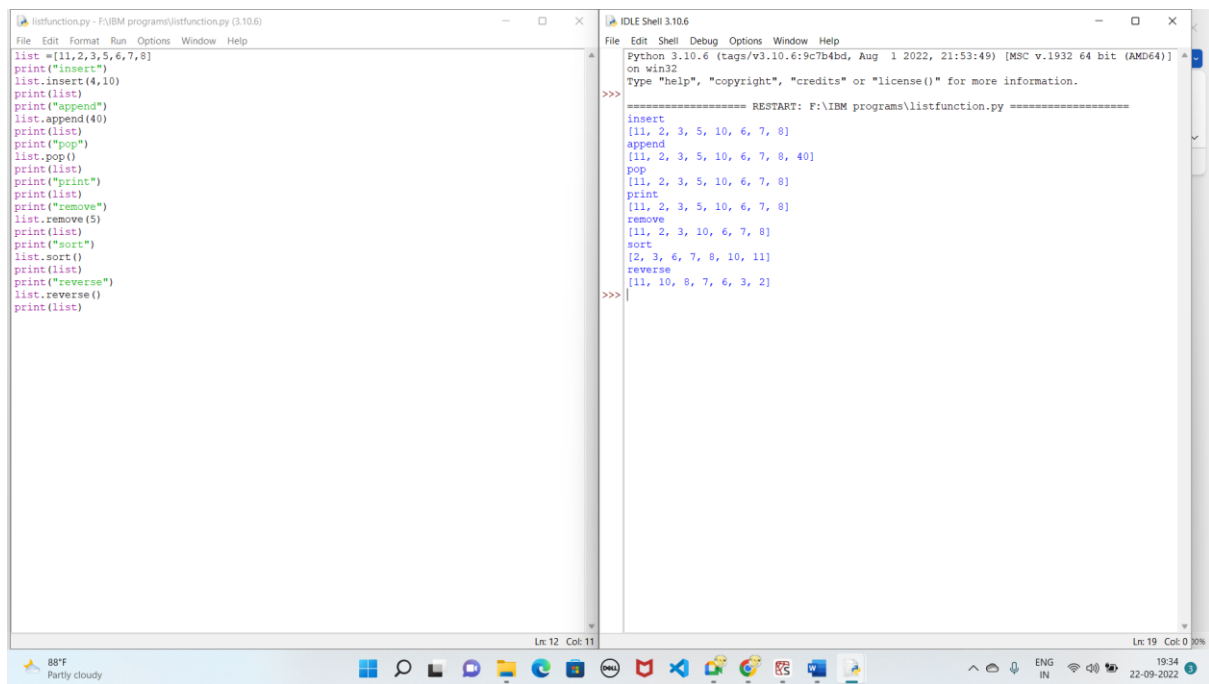
Assignment Date	19 September 2022
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Student Roll Number	820419104046
Maximum Marks	2 Marks

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 uses a while loop to repeatedly prompt the user for operations and numbers. The right window, titled 'IDLE Shell 3.10.6', shows the program's execution. It displays a menu of operations (1.Add, 2.Subtract, 3.Multiply, 4.Divide), prompts for choice, first and second numbers, and shows the result of the calculation (2.0 * 3.0 = 6.0). It also prompts for the next calculation, which is set to 'no'.

Question-3:

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

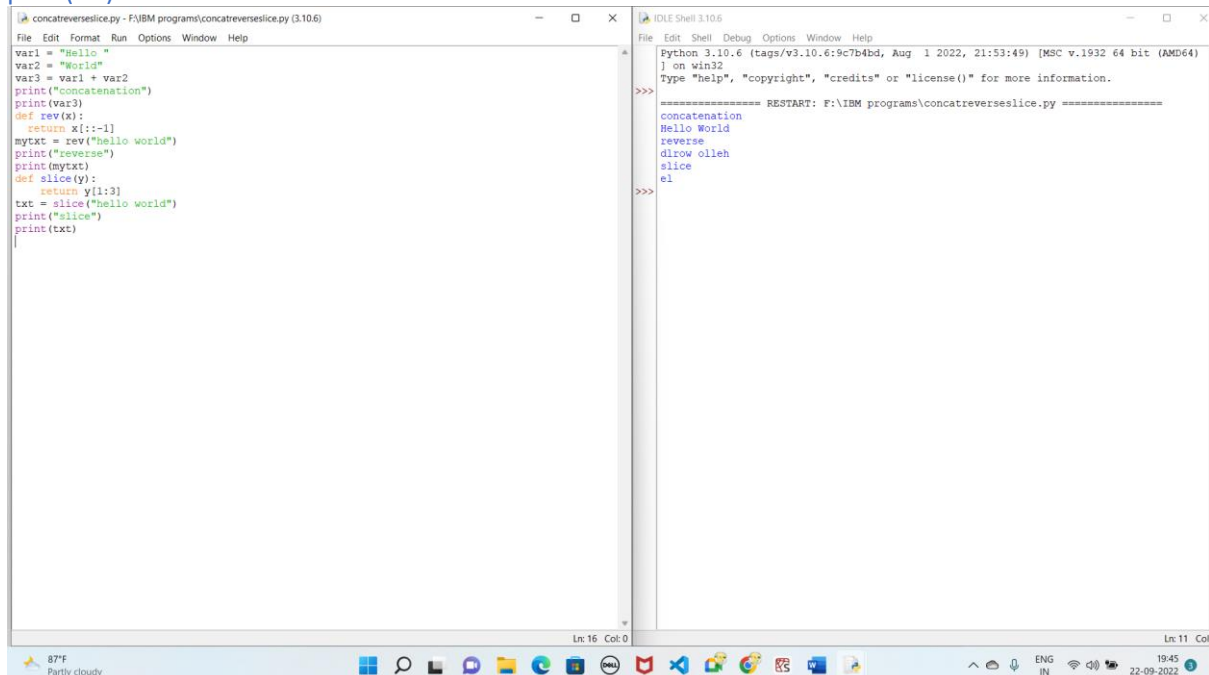
Solution:

```

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.