

## Assignments

### Python assignment - 1

Date	19 September 2022
Student Name	Alex S
Project Name	Project -Skill and Job recommender application
Maximum Marks	2 Marks

#### String Operations

##### **Question:**

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

##### **Solution :**

```
#!/usr/bin/env python3
```

```
# -*- coding: utf-8 -*-
```

```
"""
```

```
Created on Wed Sep 21 08:10:03 2022
```

```
@author: alex
```

```
"""
```

```
#Program for String concatenation
```

```
str1 = input("Enter the first string: ")
```

```
str2 = input("Enter the second strng: ")
```

```
new_str = str1 + str2
```

```
print("Concatenated string is :",new_str) #Prints the result of concatenation
```

```
#Code for String Slicing
```

```
length = len(new_str)
```

```
slicey = int(input("Enter the number of charaacters to be sliced :"))
```

```
if(length<slicey):
```

```
    print("Length is exceeded")
```

```
else:
```

```
    new_str = new_str[0:slicey]
```

```
    print("Sliced string is :",new_str) #Result for slicing
```

```
#Code for Strig reverse
```

```
print("Reversed string is : ",new_str[::-1]) #Result for String reverse
```

```
1 #!/usr/bin/env python3
2 #-*- coding: utf-8 -*-
3 """
4 Created on Wed Sep 21 08:10:03 2022
5
6 @author: alex
7 """
8
9 #Program for String concatenation
10 str1 = input("Enter the first string: ")
11 str2 = input("Enter the second string: ")
12 new_str = str1 + str2
13
14 print("Concatenated string is :",new_str) #Prints the result of concatenation
15
16 #Code for String Slicing
17 length = len(new_str)
18
19 slicey = int(input("Enter the number of characters to be sliced :"))
20 if(length<slicey):
21     print("Length is exceeded")
22 else:
23     new_str = new_str[0:slicey]
24     print("Sliced string is :",new_str) #Result for slicing
25
26 #Code for String reverse
27 print("Reversed string is : ",new_str[::-1]) #Result for String reverse
28
29
```

```
alex@alex-Swift-SF315-41: ~/libm/assignments$ python string_operations.py
Enter the first string: Career
Enter the second string: Education
Concatenated string is : CareerEducation
Enter the number of characters to be sliced :5
Sliced string is : Caree
Reversed string is : eeraC
(base) alex@alex-Swift-SF315-41: ~/libm/assignments$
```

## Basic Calculator

**Question:**

**Write a Calculator program in Python?**

**Solution:**

```
#!/usr/bin/env python3
#-*- coding: utf-8 -*-
"""
```

Created on Wed Sep 21 09:10:03 2022

```
@author: alex
"""
```

# Calculator program in python

```
#Calculator function
def calculate(a, b, c):
    if(c == '+'):
        return a+b
    elif(c == '-'):
        return a-b
    elif(c == '*'):
        return a*b
    elif(c == '/'):
        return a//b
    else:
        return null
```

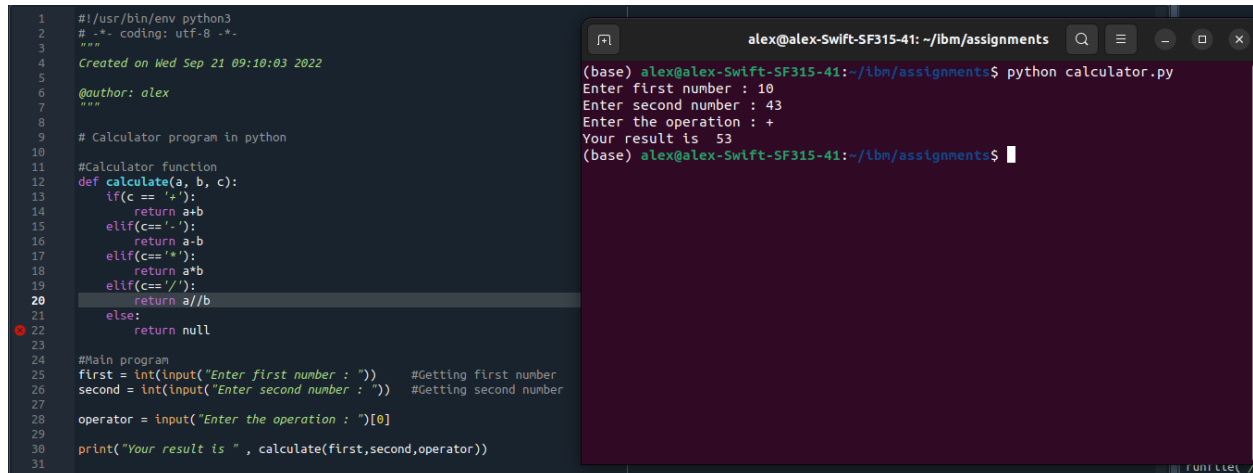
#Main program

```
first = int(input("Enter first number : ")) #Getting first number
```

```
second = int(input("Enter second number : ")) #Getting second number

operator = input("Enter the operation : ")[0]

print("Your result is " , calculate(first,second,operator))
```



The image shows a code editor on the left and a terminal window on the right. The code editor contains a Python script for a calculator. The script starts with a shebang and encoding declaration, followed by a docstring. It defines a `calculate` function that takes three arguments: `a`, `b`, and `c`. The function uses a series of `if` and `elif` statements to perform addition, subtraction, multiplication, and division based on the operator `c`. If the operator is not recognized, it returns `null`. The main program prompts the user for the first number, second number, and operation, then calls the `calculate` function and prints the result.

```
1  #!/usr/bin/env python3
2  # -*- coding: utf-8 -*-
3  """
4  Created on Wed Sep 21 09:10:03 2022
5
6  @author: alex
7  """
8
9  # Calculator program in python
10
11 #Calculator function
12 def calculate(a, b, c):
13     if(c == '+'):
14         return a+b
15     elif(c == '-'):
16         return a-b
17     elif(c == '*'):
18         return a*b
19     elif(c == '/'):
20         return a//b
21     else:
22         return null
23
24 #Main program
25 first = int(input("Enter first number : ")) #Getting first number
26 second = int(input("Enter second number : ")) #Getting second number
27
28 operator = input("Enter the operation : ")[0]
29
30 print("Your result is " , calculate(first,second,operator))
31
```

The terminal window shows the execution of the script. It prompts for the first number (10), the second number (43), and the operation (+). The result is 53.

```
(base) alex@alex-Swift-SF315-41: ~/lbm/assignments$ python calculator.py
Enter first number : 10
Enter second number : 43
Enter the operation : +
Your result is 53
(base) alex@alex-Swift-SF315-41: ~/lbm/assignments$
```

## List operations

### Questions:

**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:

```
#!/usr/bin/env python3
# -*- coding: utf-8 -*-
```

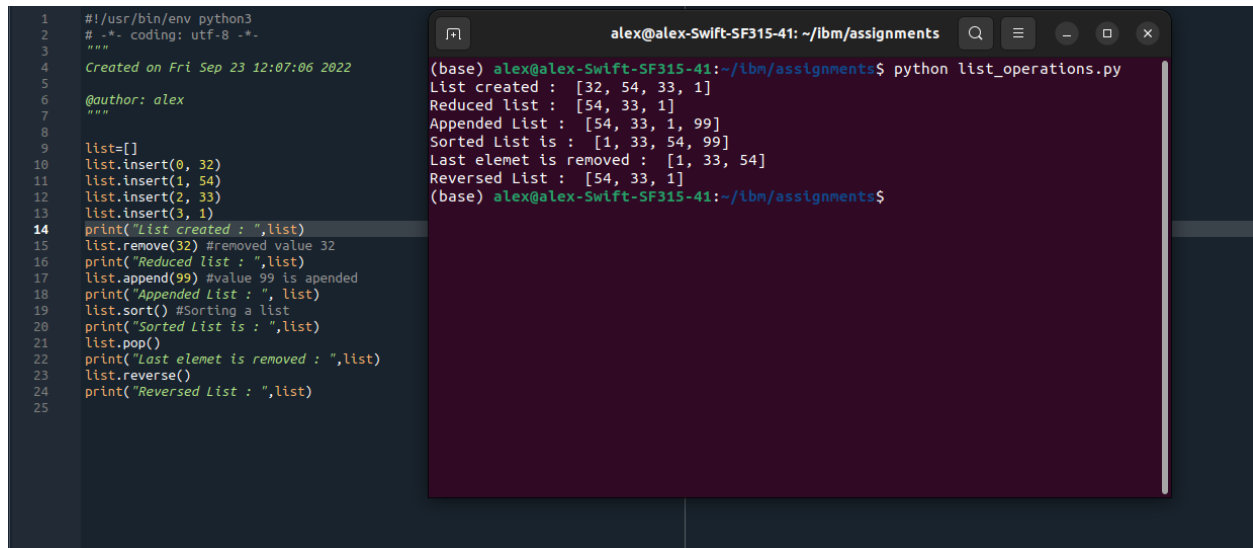
"""

Created on Fri Sep 23 12:07:06 2022

@author: alex

"""

```
list=[]
list.insert(0, 32)
list.insert(1, 54)
list.insert(2, 33)
list.insert(3, 1)
print("List created : ",list)
list.remove(32) #removed value 32
print("Reduced list : ",list)
list.append(99) #value 99 is appended
print("Appended List : ", list)
list.sort() #Sorting a list
print("Sorted List is : ",list)
list.pop()
print("Last element is removed : ",list)
list.reverse()
print("Reversed List : ",list)
```



The image shows a code editor on the left and a terminal window on the right. The code editor contains a Python script with the following content:

```
1 #!/usr/bin/env python3
2 # -*- coding: utf-8 -*-
3 """
4 Created on Fri Sep 23 12:07:06 2022
5
6 @author: alex
7 """
8
9 list=[]
10 list.insert(0, 32)
11 list.insert(1, 54)
12 list.insert(2, 33)
13 list.insert(3, 1)
14 print("List created : ",list)
15 list.remove(32) #removed value 32
16 print("Reduced list : ",list)
17 list.append(99) #value 99 is appended
18 print("Appended List : ", list)
19 list.sort() #Sorting a list
20 print("Sorted List is : ",list)
21 list.pop()
22 print("Last element is removed : ",list)
23 list.reverse()
24 print("Reversed List : ",list)
25
```

The terminal window on the right shows the output of the script:

```
(base) alex@alex-Swift-SF315-41: ~/lbn/assignments$ python list_operations.py
List created : [32, 54, 33, 1]
Reduced list : [54, 33, 1]
Appended List : [54, 33, 1, 99]
Sorted List is : [1, 33, 54, 99]
Last element is removed : [1, 33, 54]
Reversed List : [54, 33, 1]
(base) alex@alex-Swift-SF315-41: ~/lbn/assignments$
```

## Why is Python a popular programming language?

Python is a general-purpose language that is easy to learn and use. Due to its popularity, there is a big and helpful community. Also, Python is backed up by big companies like Google, Amazon, and Facebook. Python is suggested as the first programming language to learn due to its English-like syntax.

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

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

### **Full form of WSGI?**

The Web Server Gateway Interface (WSGI, pronounced whiskey or WIZ-ghee) is a simple calling convention for web servers to forward requests to web applications or frameworks written in the Python programming language.