

Laboratory Report Cover Sheet

SRM Institute of Science and Technology
College of Engineering and Technology
Department of Electronics and Communication Engineering

18ECO109J Embedded System Design using Raspberry Pi

Fifth Semester, 2023-24 (Odd semester)

Name : Arnav Aggarwal
Register Number : RA2111032010002
Day Order : 3
Venue : TP1117-VLSI Simulation Lab
Title of the Experiment : Arithmetic and String Operations
Date of conduction : 27.07.2023
Date of Submission : 03.08.2023

Particulars	Max. Marks	Marks Obtained
Pre-lab / Algorithm	10	
Lab Performance	20	
Post-lab	10	
Total	40	

REPORT VERIFICATION

Date : 03.08.2023
Faculty Name : Dr.Kanaparthi V Phani Kumar
Signature :

LAB 1 Arithmetic and String Operation

Aim:

To explore Arithmetic and string operations using python 3

Task

1. Write a Python program to perform arithmetic operations on two integers.
2. Write a Python Program to find area of a triangle.
3. Write a Python code to remove 6 characters from start of given string
"Embedded Systems"
4. Write the Python code to find length of String "Computer Science". Replace science with Electronics.
5. Write the Python program to reverse a string from user input

Algorithm:

Task 1:

- 1.Start
- 2.Get the input for both the integers from the user.
- 3.Perform various arithmetic operations on both the integers.
- 4.Display the result.
- 5.End

Task 2:

- 1.Start
- 2.Get the input for base and height of a triangle from the user.
- 3.Calculate the area of the triangle by using the formula $(\frac{1}{2}) * \text{base} * \text{height}$.
- 4.Display the area of the triangle.
- 5.End

Task 3:

- 1.Start
- 2.Get the input for the string given from the user.
- 3.Perform slicing operation on the given string to remove 6 characters from the start.
- 4.Display the new string.
- 5.End

Task 4:

- 1.Start
- 2.Define the string given in the question.
- 3.Calculate the length of the given string by using the **len()** function.
- 4.Display the calculated length of the string.
- 5.To replace 'Science' with 'Electronics' use the **replace()** function in python3.
- 6.End

Task 5:

- 1.Start
- 2.Get the input of the string from the user.
- 3.Use the string slicing operations to perform the reverse of the string.
- 4.Display the reversed string.
- 5.End

Programs:

Task 1:

- 1.Write a Python program to perform arithmetic operations on two integers.

```
In [ ]: # Name: Arnav Aggarwal
        # Register Number: RA2111032010002

        a=int(input("Enter first integer :"))
        b=int(input("Enter second integer :"))
        print("Addition :",a+b)
        print("Subtraction :",a-b)
        print("Multiplication :",a*b)
        print("Division :",a/b)
```

Task 2:

- 2.Write a Python Program to find area of a triangle.

```
In [ ]: # Name: Arnav Aggarwal
        # Register Number: RA2111032010002

        base=int(input("Enter the base of the triangle:"))
        height=int(input("Enter the height of the triangle:"))
        area=0.5*base*height
        print(area)
```

24.0

Task 3:

- 3.Write a Python code to remove 6 characters from start of given string "Embedded Systems"

```
In [ ]: # Name: Arnav Aggarwal
        # Register Number: RA2111032010002

        string=input("Enter the given string :")
        print(string[6:])
```

ed Systems

Task 4:

4. Write the Python code to find length of String "Computer Science". Replace science with Electronics.

```
In [ ]: # Name: Arnav Aggarwal
        # Register Number: RA2111032010002

        string="Computer Science"
        print(len(string))
        new_string=string.replace("Science","Electronics")
        print(new_string)
```

Task 5:

5. Write the Python program to reverse a string from user input

```
In [ ]: # Name: Arnav Aggarwal
        # Register Number: RA2111032010002

        string=input("Enter a string:")
        print(string[::-1])
```

Output:

Task 1:

```
Enter first integer :12
Enter second integer :4
Addition : 16
Subtraction : 8
Multiplication : 48
Division : 3.0
```

Task 2:

```
Enter the base of the triangle:4
Enter the height of the triangle:6
12.0
```

Task 3:

```
Enter the given string :Embedded Systems
ed Systems
```

Task 4:

16

Computer Electronics

Task 5:

```
Enter a string:Embedded Systems  
smetsyS deddebmE
```

Pre Lab Questions:

1. Which notation you will use to extract part of a string?
2. Convert all the characters in the string "Raspberry" to upper case using python code.
3. List the comparison and arithmetic operators used in python.

Pre Lab Questions:

1. Which notation you will use to extract part of a string?

Ans:- Using slicing: `string[start: end]` extracts the substring from the start index to the end-1 index. If end is not specified, it will extract until the end of the string.

Ex: `s = "Hello, world!"`
`print(s[0:5])`
 \Rightarrow Hello

2. Convert all the characters in the string "Raspberry" to the uppercase using python code.

Ans:- `given-string = "Raspberry"`
`print(given-string.upper())`

Output: RASPBERRY

3. List the comparison and arithmetic operations used in python.

Ans:- Comparison Operators \Rightarrow

- 1.) `'=='` : Equal to
- 2.) `'!='` : Not Equal to
- 3.) `'<'` : Less than
- 4.) `'>'` : Greater than
- 5.) `'<='` : Less than or equal to
- 6.) `'>='` : Greater than or equal to

Arithmetic Operators \Rightarrow

1. '+' : Addition
2. '-' : Subtraction
3. '*' : Multiplication
4. '/' : Division (returns a float)
5. '//' : Floor Division (returns an integer)
6. '%' : Modulus (remainder of division)
7. '**' : Exponentiation (raise to the power)

Post Lab Questions:

1. Write Python program to find area of a circle.

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```
In [ ]: # Name: Arnav Aggarwal
        # Register Number: RA2111032010002

import math
radius=int(input("Enter radius of the circle:"))
area=math.pi*radius**2
print(area)
```

78.53981633974483

2. >>> str1 = 'Hello '
>>>str2 = ' World!'
print (str1 + str2)
What is the output?

Output: Hello World!

Result:

Thus, the various arithmetic and string operations were studied and performed in python3.