Lab 1 Problems

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1. Input and Output on Console.

   (a) Print Hello World on Console

   (b) Take your name as input from console and print "Hello ¡name¿" using f-string.

2. Use python interpretor as calculator to calculate:

   (a) Area of Circle with radius $r = 5.5$

   (b) Calculate distance between two points $P_1(3.4, 6.8)$ and $P_2(9.4, 7.3)$.

   (c) Take height and base as input from console and print area of triangle.

   (d) Calculate gravitational force between Earth and Moon.

   (e) Calculate number of molecules in one gram of CO_2.

3. Create a string S = "Simple is better than complex."

   (a) print value of S[0], S[-1], S[6], S[-3]

   (b) print value of S[3:8], S[4:], S[:6], S[:]

   (c) create string "Simple is complex" by S using indexing and addition

   (d) what is output of S[:6]*4

4. Find the output of following List operation

   (a) Create list L containing object 5, 7.5, 3+j4, "A", "B", "C". what will be output of L[0], L[-1], L[3:], L[::-1], L[::2]

   (b) L = ['MITRC', ['Alwar', 'Rajasthan']]. what will be out of L[0][3], L[1][0]

   (c) Write value of L at each step.

```
L = [1, 2, 3] + [4, 5, 5]
del L[-1]
L = L + [6]
del L[len(L)-3]
```

   (d) What is the output at each step.

```
>>> list("MONTY PYTHON")
>>> max(list("MONTY PYTHON"))
>>> min(list("MONTY PYTHON"))
>>> list(range(5))
>>> list(range(3,9))
>>> list(range(1,10,2))
>>> list(range(15,1,-3))
```

5. Execute following dictionary operation.

   (a) Create an empty dictionary. Add name, location, city and pin of your college.

   (b) Delete 'pin' from above dictionary. Add 'state' subsequently.

   (c) Create a dictionary using dict() function of key name, roll, branch, batch.

   (d) Create a dictionary from List contaiong lists of two item of above problem using dict() function.

6. Perform following Tuple operation

   (a) Create a tuple as comma- seperated value of point having x=23, y=34, z=29.

   (b) Create a tuple of single value 'A'.

   (c) Reverse value of x and y in above statement using tuple-unpacking.

   (d) Create a List of points coordinate and show how it is different from tuple of same coordinate.

   (e) Create tuple of even number from 1 to 20 using tuple() function and return the third even number using indexing.