Python Tuples – Problem Sheet

1. List out the similarities and differences (in tabular column format) between the following in python.
    a. List
    b. Dictionary
    c. Tuples

2. Write a python code using tuples to produce the following four outputs.

```
()
(1, 2, 3)
(1, 'Hello', 3.4)
('mouse', [8, 4, 6], (1, 2, 3))
```

3. Execute the following code and observe the output. Write the inference from the program and output.

```
my_tuple = 3, 4.6, "God"

print(my_tuple)

a, b, c = my_tuple

print(a)

print(b)

print(c)
```

4. Create an empty tuple (say tuple1). Using loop, read the name of some engineering colleges (at least 10) from users and feed them into the tuple1. Print the tuple1 after feeding each college name.

5. Create an empty tuple (say tuple1). Using loop, feed the all even numbers that exist between 100 and 200 into the tuple1. Print the tuple1 after feeding even number.

6. Write a python code to produce the following output using **my_tuple = ('p','r','o','g','r','a','m','i','z')**

```
('r', 'o', 'g')
('p', 'r')
('i', 'z')
('p', 'r', 'o', 'g', 'r', 'a', 'm', 'i', 'z')
```

7. Can we reassign tuples? Check this statement with the following codes. Show the corresponding outputs.

```
my_tuple = (4, 2, 3, [6, 5])
print(my_tuple)

my_tuple = ('p', 'r', 'o', 'g', 'r', 'a', 'm', 'i', 'z')

print(my_tuple)
```

8. Execute the following code and observe the output. Write the inference from the program and output.

(a)

```
my_tuple = (4, 2, 3, [6, 5])
my_tuple[1] = 9
```

(b)

```
my_tuple = (4, 2, 3, [6, 5])
my_tuple[3][0] = 9
print(my_tuple)
```

(c)

```
print((1, 2, 3) + (4, 5, 6))
('Repeat', 'Repeat', 'Repeat')
print(("India",) * 3)
```

9. Execute the following code and observe the outputs.

```
my_tuple = ('a', 'p', 'p', 'l', 'e')
print(my_tuple.count('p'))
print(my_tuple.count('e'))
print(my_tuple.index('p'))
print(my_tuple.index('e'))
```