

Python Assignment

1) Implement a function in python which takes two numerical strings as arguments, returns the sum in integer.

Input: "2" and "5"

Output: 7

2) What is the output of the following code snippet? Also explain why?

```
l1 = [1,2,3]
```

```
l2 = l1
```

```
l3 = l1[:]
```

```
print(l1 is l2)
```

```
print(l1 is l3)
```

3) You are working on a text processing project and need to count the frequency of each word in a given sentence. Write a Python function called `count_word_frequency` that takes a sentence as input and returns a dictionary where the keys are the words and the values are the frequencies.

4) There is a class called `MathUtils` that contains various mathematical utility functions. One of the functions you want to include is a utility function called `is_prime()` that checks whether a given number is prime or not. However, this function does not require any instance-specific data and does not use the **self** parameter. Add the function in the class `is_prime()` that accepts a single parameter `num` and returns `True` if the number is prime, and `False` otherwise.

5) Create a class called `Circle` that represents a circle. The class should have an attribute for the radius and methods to calculate the area and circumference of the circle. Write the class definition.

6) Given an integer list `nums`, return `true` if any value appears at least twice in the list, and return `false` if every element is distinct.

Input: `nums = [1, 1, 4, 2, 3, 3, 3]`

Output: `true`

Input: `nums = [3, 4, 9, 7]`

Output: `false`

7) Given two strings s and t, return true if t is an anagram of s, and false otherwise.

Input: s = "abc", t = "cba"

Output: true

Input: s = "hat", t = "cat"

Output: false

8) Write a Python one-liner to swap the values of two variables, a and b, without using a temporary variable.