**ACM India and RBCDSAI, IIT Madras Joint Summer School on DS/ML/AI for Women | 1**

**Assignment 1: Python for AI/ML/DS**

**July 11, 2022**

**Submission URL**

**Submission Deadline: 12/07/2022, 2.30 PM**

**Topic: Lists, tuples, sets, and dictionaries**

**1. Using Python convert a tuple to a dictionary**

*Input: ((1, “Hello”), (2, “World”))*

*Output: {“Hello”: 1, “World”: 2}*

**2. Write a Python code to find the number of occurrences of each word in a given string (words are separated by spaces and case-sensitive)**

*Input: Today we learned tuples and we learned dictionaries and we learned string Output:*

*Today 1*

*we 3*

*learned 3*

*tuples 1*

*and 2*

*dictionaries 1*

*string 1*

**Topic: Loops**

**3. Write a function to print the given number in the Fibonacci series using for loop and while loop**

*Input: fibonacci(9)*

*Output: 34*

**Also, find the golden ratio using it**

*Output: 1.618*

**Topic: Function and packages**

**4. Write a function to calculate the median of a given list**

**a. Without using any package**

**b. With using a package (e.g. *NumPy*)**

*Input: [77, 78, 85, 86, 86, 86, 87, 87, 94, 98, 99, 103]*

*Output: 86.5*