Assignment -1

1. Write a Python program which accepts the radius of a circle from the user and compute the area.
    a. **Unit Test:** Input: 5, Output: 78.539
2. Write a Python program which accepts the user's first and last name and print them in reverse order with a space between them.
    a. **Unit Test:** Input: Sathya, Kumar Output: Kumar Sathya

3. Write a Python program which accepts a sequence of comma-separated numbers from user and generate a list and a tuple with those numbers.
    a. **Unit Test:** Input: 2,21,22,45,32
    b. Output: List: [‘2’,’21’,’22,’45’,’32’]
    c. Tuple: (‘2’,’21’,’22,’45’,’32’)
4. Write a Python program to accept a filename from the user and print the extension of that.
    a. **Unit Test**: Input: vetri.m, Output: m
    b. Input: MA5261.exe, Output: exe

5. Compute the following expression (get x, y and n as input)
    a. $(x + y)^n$
    b. $(2x + 3y)^n$
    c. **Unit Test:**
        i. Enter n: 2
        ii. Enter x: 3
        iii. Enter y: 2
        iv. **Output 1**: 25, **Output 2:** 144
6. Verify that the following identity is true (up to small error, input: θ)
    a. $\sin^2\theta + \cos^2\theta = 1$
    b. $\frac{\sin\theta}{\theta} \approx 1$, for small θ