Week 1 Assignment 1

1. Identify the type of the given system:
   - Linear
   - Nonlinear
   - Time-variant
   - Time-invariant

2. The state of the system is described by the following matrix:
   - A
   - B
   - C
   - D

3. The transfer function of the following system is given by:
   - \( G(s) = \frac{Y(s)}{R(s)} \)

4. The solution of the differential equation:
   - Y(t)
   - X(t)

5. The state of the system is given by the following vector:
   - X
   - Y
   - Z

6. The state of the system is given by the following equation:
   - \( X(t) = \begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} \)

7. The state variable is given by the following vector:
   - X
   - Y
   - Z

8. The state of the system is given by the following equation:
   - \( X(t) = \begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} \)

9. The state of the system is given by the following matrix:
   - A
   - B
   - C
   - D

10. The state of the system is given by the following vector:
    - X
    - Y
    - Z

11. The state of the system is given by the following equation:
    - \( X(t) = \begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} \)

12. The state of the system is given by the following equation:
    - \( X(t) = \begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} \)

13. The state of the system is given by the following equation:
    - \( X(t) = \begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} \)

14. The state of the system is given by the following equation:
    - \( X(t) = \begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} \)

15. The state of the system is given by the following equation:
    - \( X(t) = \begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} \)

16. The state of the system is given by the following equation:
    - \( X(t) = \begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} \)

17. The state of the system is given by the following equation:
    - \( X(t) = \begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} \)