

LESSON 3: Introduction to Discrete Dynamical Systems

OBJECTIVES:

1. Understand the difference between discrete and continuous models.
2. Determine when discrete modeling is appropriate and the notation to be used.
3. Understand the relationship between a difference equation, a recursion equation, and a sequence.
4. Understand how recursive and difference relationships can be used to model real world problems (the idea that the future is equal to the present plus some change).
5. Given an initial condition, manually iterate a recursion equation.
6. Model a situation using a sequence / recursion equation.
 1. Define variables
 2. State the domain
 3. List any assumptions
 - d. State the math model (DDS)
 - e. State the initial condition

ASSIGNMENT:

READ: Section 1.2 in Modeling in a Real and Complex World

DO: Questions 1, 2, 3 of Section 1.2 in Modeling in a Real and Complex World.

HELPFUL REFERENCES:

Sequences Stewart CH 11, Section 11.1, pp. 674-684