March 6, 2019 Outline

Reading: text, §18

1. Isolation: program modification
   a. Loading

2. Covert channels
   a. Storage vs. timing
   b. Noise vs. noiseless
   c. Existence
   d. Bandwidth

3. Covert channel detection
   a. Shared Resource Matrix Model
   b. Information flow analysis
   c. Covert flow trees

4. Shared resource matrix methodology
   a. Identify shared resources, attributes
   b. Operations accessing those attributes
   c. Building the matrix
   d. Issues about the methodology

5. Information flow analysis
   a. Direct, indirect flows

6. Covert flow trees
   a. Goals, symbols
   b. Construction of covert flow trees
   c. Analysis
   d. Example

Assignments: Homework 4, due March 8, 2019