Activity 15-2: Null Object Pattern

Null Pointer Exception

- Who has encountered a **null pointer exception**?
- Behind the scenes in Java, all variables are pointers. What are the implications of this for when we are designing and writing code?
  - Problem:
    * Suppose you have a container class (list, dictionary, set, etc.) that contains Items. An obvious method you would want is getItem.
    * What are the ways you might handle a getItem(item) called when the requested item is not in the container?

Null Object Pattern Example

- empty_node class from CS223 binary search tree lab.

Null Objects

- Null Objects have methods that implement "nothing" in just the right way.
- In this context: "nothing" => "inconsequential"
  - A Null Object must be able to pass through the system without consequence.
  - Ensuring this requires careful thought and planning about how exactly the Null Object should behave for each method.
- The Null Object Pattern is an elegant solution to help eliminate the need null pointer checks.