Discussion Questions for "Using Java Fields"

1. When doing logical proofs, we distinguish between "necessary" conditions and "sufficient conditions". Necessary conditions are things which must be true to achieve some goal, but there may be other conditions which also have to be true to achieve the goal. Sufficient conditions describe **all** the conditions which must be true to achieve the goal; nothing else is required. When trying to read or write a field, is having a reference to the object a necessary condition? A sufficient condition? Is having the correct access modifier a necessary condition? A sufficient condition? What are the sufficient conditions to read or write a field?

2. What are the advantages and disadvantages of an implicit "this" reference variable inside a method? If you were the Java designer, would you include an implicit "this" reference? In the language?

3. If you wrote any code in Python or C, did you learn about the scope of variables? What are the scoping rules for variables in typical declarative programming languages?

4. Describe some cases where static variables might be useful in a class. Think about classes like cars, balls, and bank accounts. Can you think of some cases for those classes where static variables might be useful?