Assignment 4

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Reading Assignment: How to Program Java

- Chapter 10 – Object-Oriented Programming: Polymorphism
- Chapter 11 – Exception Handling: A Deeper Look
- Chapter 16 – Strings, Characters and Regular Expressions

True or False:

1. A subclass exhibits the behaviors of its superclass and can modify those behaviors so that they operate appropriately for the subclass.
2. Java supports multiple inheritance, which occurs when a class is derived from more than one direct superclass.
3. Superclass constructors are not inherited.
4. In Java, inheriting from a class does not require access to the source code of this class.
5. Constructors and static methods cannot be declared in abstract classes.

Short Questions:

1. What is an indirect superclass in Java?
2. Explain the role of the `protected` modifier when applied to a class member.
3. Explain how a subclass method can override a superclass method.
4. Describe the concept of polymorphism.
5. What should be enclosed in a `try` block?
6. When does a `catch` block interact with a caught exception object?
7. What is stack unwinding in the context exception handling?
8. What is a precondition?
9. What is a prostcondition?
10. When does the `finally` block execute?

Programming Challenge: This programming challenge is similar to the challenge the application you had to build in Assignment 2, except for the operating system. Create a simple Android application that displays information about the mobile platform it is executed on. The application can print the data, time, or phone parameters such as location, orientation, and Wi-Fi attributes. Some of the parameters, such as the location, may be more difficult to handle on the emulator than on a connected phone.

1. Implement this Android application in Java.
2. Using Android Studio, Git, and GitHub, commit your application as a project labeled `Assignment4android` under `Students/<GitHubID>/`.