

### **3. Describe the coding conventions you were using for your software.**

#### **1. Naming Conventions**

Classes and Interfaces: Use PascalCase (also called UpperCamelCase), e.g. WebsiteMonitor, ComparisonStrategy, TextContentComparisonStrategy.

Methods and variables: Use camelCase, e.g. checkForUpdates(), fetchWebsiteContent(), lastWebsiteContents.

Constants: Use ALL\_CAPS\_WITH\_UNDERSCORES (though you may not have constants yet).

Packages: Use lowercase with dot notation, e.g. com.uas.websiteMonitor.service.

#### **2. Indentation and Braces**

Use 4 spaces for indentation (no tabs).

Opening braces { are placed on the same line as the method or class declaration.

Closing braces } are aligned with the start of the block.

#### **3. Method Design**

Methods should be small and focused — each method does one clear task.

Use descriptive names that clearly explain what the method does.

Avoid very long parameter lists; consider using objects or builders if many parameters are needed.

#### **4. Comments and Documentation**

Add JavaDoc comments for public classes and methods to describe their purpose.

Use inline comments sparingly, only to clarify complex logic.

Keep comments up-to-date with code changes.

#### **5. Error Handling**

Catch exceptions explicitly, log or print useful error messages.

Avoid empty catch blocks or silent failures.

Return null or default values clearly if needed, but document that behavior.

#### **6. Separation of Concerns**

Use interfaces (Subject, Observer, ComparisonStrategy) to decouple components.

Each class has a single responsibility:

WebsiteMonitor manages subscriptions and notifications.

ComparisonStrategy implementations handle different ways of comparing websites.

Subscription encapsulates user subscriptions.

## **7. Use of Collections**

Prefer generic collections (`List<Observer>`, `Map<String, String>`) to ensure type safety.

Initialize collections on declaration or in constructor.

## **8. Package Organization**

Group related classes in packages by functionality:

service for core logic (`WebsiteMonitor`),

observer for observer pattern interfaces/classes,

model for data classes like `Notification`, `Subscription`,

strategy for comparison strategies.