1. Write your name and student ID in the space above.

2. Circle the correct answer.

Solution: THIS IS THE ANSWER KEY.
1. Which of the following describes the Factory Method?
   A. The creator implements and also contains an object of the Product type.
   B. Subclass the Creator to create different types of Products.
   C. Concrete Creators implement Concrete Products.
   D. Object creation code is handled by the client code that uses the Creator.

2. Which of the following is false about an anonymous class?
   A. It can contain multiple methods.
   B. It cannot reference fields of the parent class.
   C. It has no name, so it cannot be called and reference by other code.
   D. It is a type of inner class.

3. Imagine you want to create a web browser. The web browser can handle and show appropriate buttons for different types of files: web pages (HTML), PDF files, and so on. For example, with HTML, the web browser has an HTML display, HTML buttons, and HTML-relevant options. What is the most appropriate design pattern to ensure a consistent user interface?
   A. Abstract Factory
   B. Prototype
   C. Decorator
   D. Composite

4. Text in a box should not be in an analogous color with the fill-in color of the box. This would violate:
   A. Triadic colors
   B. Screen reader functionality
   C. Customization
   D. Contrast ratio

5. Which of the following is not usually a feature of Scrum?
   A. All participants are dedicated software engineers.
   B. Workload is divided into two-to-four-week sprints.
   C. Every day, participants get together to briefly talk about their progress.
   D. Each sprint ends with a session for evaluating total work done.

6. What is a difference between the Proxy and Decorator design patterns?
   A. No client code changes are needed to implement Proxy, while changes are needed to implement Decorator.
   B. Decorator changes the interface while Proxy does not change the interface.
   C. Proxy can be subclassed while Decorator cannot be subclassed.
   D. Decorator can authenticate the user before allowing access while Proxy cannot.

7. In the Decorator pattern with many Concrete Decorators, the relationship between a Concrete Decorator and its Component is...
   A. The Concrete Decorator is an implementation of the Component.
   B. The Concrete Decorator is a parent of a subclass of the Component.
C. The Concrete Decorator is a subclass of an implementation of the Component.
D. The Concrete Decorator is a subclass of a parent of the Component.

(8) Which of the following triggers a fast-forward merge? (Assume there are no other changes.)
A. Pull main, make a feature branch and switch to it, make some changes, commit, push
B. Pull main, make some changes, then pull main
C. Pull main, make two feature branches, make changes to both, merge the two branches
D. Pull main, make some changes, commit, push

(9) What is a difference between development testing and release testing?
A. Development testing focuses on improving codebase; release testing focuses on removing bugs.
B. Development testing uses white-box testing techniques; release testing uses black-box testing techniques.
C. Development testing is done by developers; release testing is done by users.
D. Development testing includes acceptance testing; release testing includes structural testing.

(10) Which of the following is an example of the Hawthorne effect in UX research?
A. A user enjoyed playing your game, but during a focus group, they expressed dissatisfaction with various aspects that did not concern them during gameplay.
B. Users expressed that the Donation button is too big on your website. However, through A/B testing, you found out that making it smaller would decrease donations.
C. You cannot study password selection by asking users to create a password and give it to you.
D. Through card sorting, you found out that users categorize the “login” functionality with the “logging” functionality. This doesn’t make sense for your app.
Solution: B, B, A, D, A
A, C, D, B, C