quiz no solution w1

Question 1

When is the best time to use a design pattern? Choose **two** answers.

- [ ] **For a problem that is unique to your program.**
- [x] **For a commonly-encountered issue.**
- [ ] **When fixing spaghetti code**
- [x] **When explaining a solution to your fellow developers**

Question 2

What is the purpose of the Singleton pattern? Select the **two correct** answers.

- [x] **to provide global access to an object**
- [ ] **to enforce collaboration of a class with only one other class**
- [x] **to enforce instantiation of only one object of a class**
- [ ] **to provide simple classes with only one method**

Question 3

What does it mean to "let the subclass decide" in the Factory Method Pattern?

- [x] **the subclass defines the methods for concrete instantiation. As such, the type of object is determined by which subclass is instantiated.**
- [ ] **the subclass decides which object to create, but calls a method that is defined in the superclass to instantiate the class**
- [ ] **the subclass will pass a parameter into a factory that determines which object is instantiated.**

Question 4

What do we call the creation of an object, for example, with the 'new' operator in Java?

- [x] **concrete instantiation.**

☐ **manifestation**
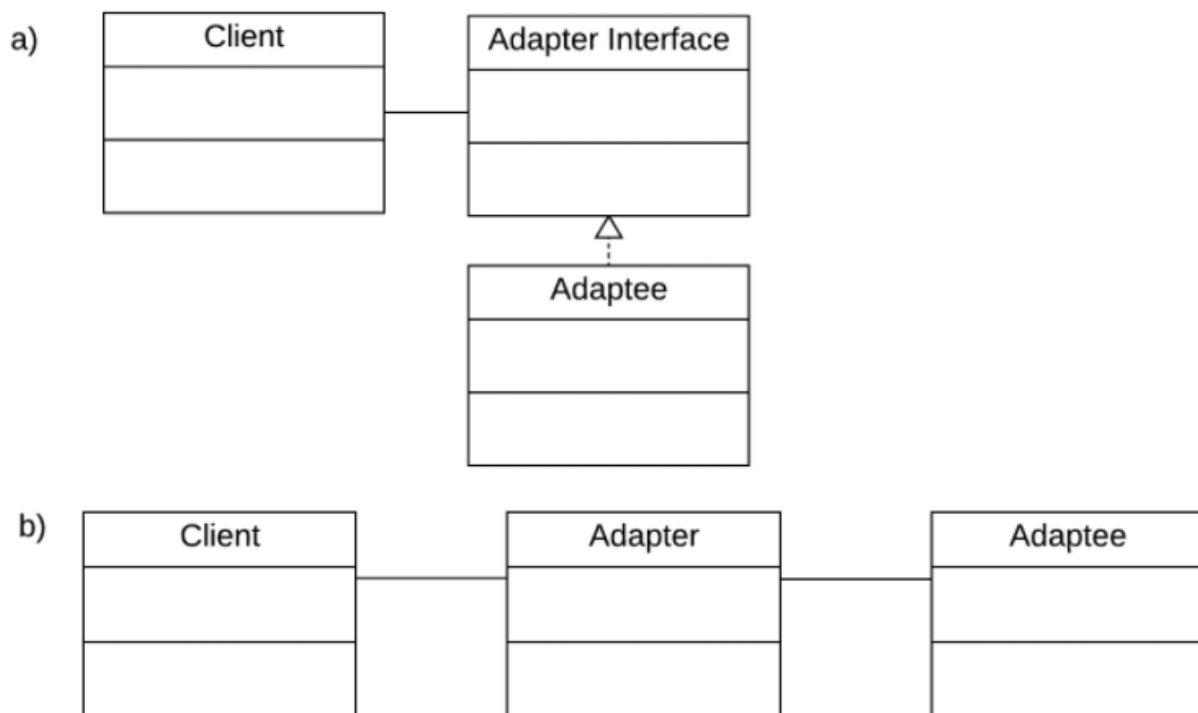
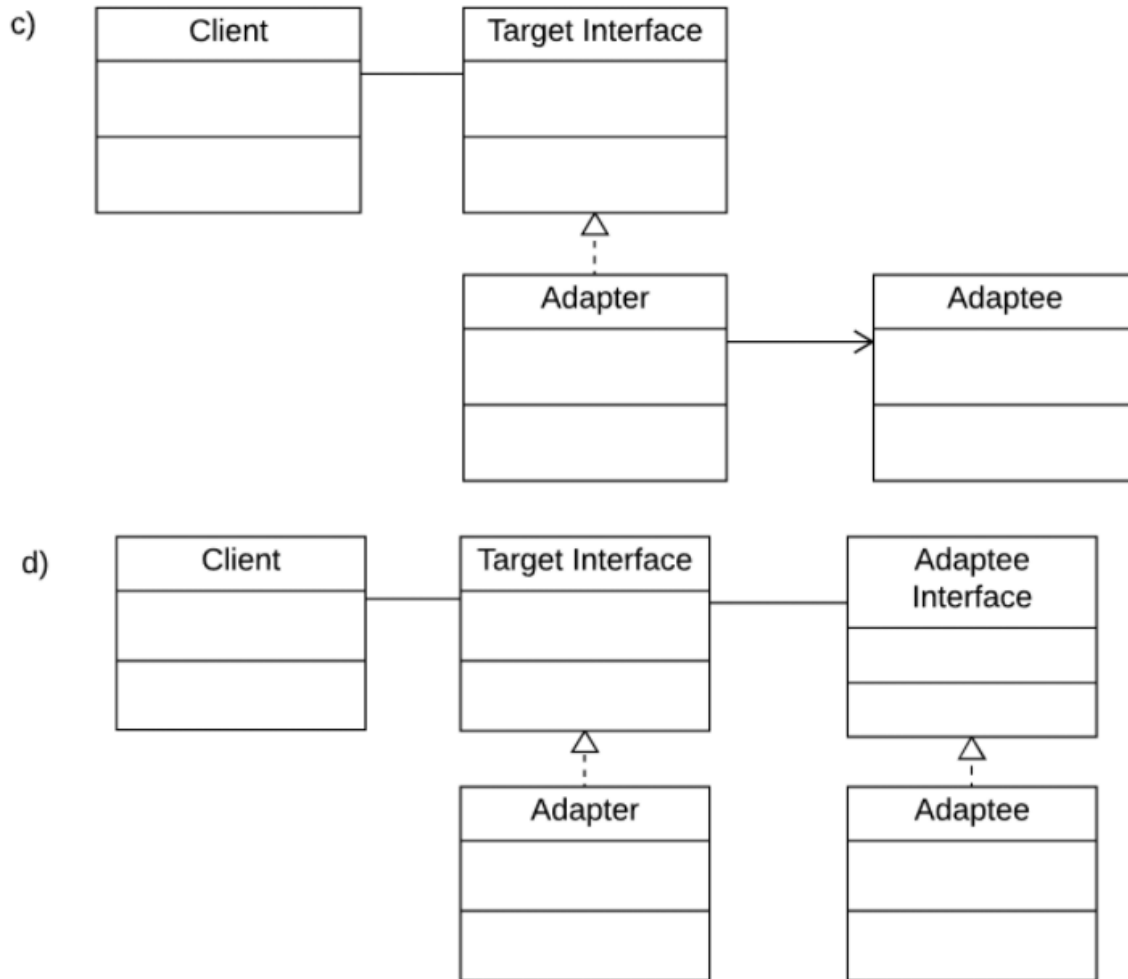☐ **object realization**

☐ **class creation**

Question 5

What are the advantages of the **Facade** pattern? Select the **three correct** answers.

☒ **The client and the subsystem are more loosely coupled**

☒ **The Facade class redirects requests as needed**

☒ **The complexity of the subsystem is hidden**

☐ **The subsystem can handle more clients**

Question 6

Which of the following diagrams shows the **Adapter** pattern?

c)

Client	

Target Interface	

△
⋮
Adapter	

→

Adaptee	

d)

Client	

Target Interface	

Adaptee Interface	

△
⋮
Adapter	

△
⋮
Adaptee	

☐ **a)**

☐ **b)**

☐ **d)**

☒ **c)**

Question 7

Which of these are the best applications for a **Composite** Pattern? Choose the **three correct** answers.

☒ **Music in a playlist**

☐ **Students in a class**

☒ **Elements in a user-interface dialog**

☒ **Files and folders**

Question 8

Which of these is **NOT** a common application of the **Proxy** Pattern?

☐ **remote proxy**

☐ **protection proxy**

☐ **virtual proxy**

☒ **information proxy**

Question 9

How does a **Decorator** Pattern work? Choose one.

☐ **encapsulates a class to give it a different interface**

☐ **expands the methods of a class with inheritance**

☒ **builds a behaviour by stacking objects**

☐ **adding features to a class with a new class**

Question 10

What are the object types that are used in the **Composite** Pattern? Select the **two correct** answers.

☒ **leaf**

☐ **branch**

☐ **root**

☒ **composite**

☐ **trunk**

Question 11

Many different clients need to create a similar object. You would like to outsource this concrete instantiation to a dedicated class. Which technique will you use, in one word?

☐ *factory method*

Question 12

How do you enforce the creation of only one Singleton object? Select the **two correct** answers.

1 / 1 point

☒ **Give the Singleton class a private constructor**

☐ **Specify in the comments that only one Singleton object is to be instantiated.**

☐ **Throw an exception if a Singleton object is already instantiated**

☒ **Write a method that can create a new Singleton object or return the existing one.**