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Module 1 Review

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1. Which of these are desirable characteristics of a software design? **Choose the three correct answers.**

1 / 1 point

☒ flexible

✓ **Correct**

Correct! We strive to make code flexible, which is to say that it can be adapted for new requirements

☒ reusability

✓ **Correct**

Correct! Software designers hate to repeat themselves. If code is reusable, then there is less overall coding to do.

☒ maintainability

✓ **Correct**

Correct! Code should be maintainable, which means the code can be modified or extended easily.

☐ tight coupling

2.

1 / 1 point

Identify two outcomes of the design process. **Choose the two correct answers.**



technical design



Correct

Correct! Technical design gets even closer to the actual implementation.



code implementation



conceptual design



Correct

Correct! Conceptual design covers the early part of design, where the problem is translated into a high-level solution.



design plan

3. You are writing out a CRC card for a bank machine component. Under which section should you put "Track Cash Remaining."

1 / 1 point



Risk



Class



Collaborator



Responsibility



Correct

Correct! One of the responsibilities of this bank machine is to track how much money it has left.

4.

1 / 1 point

Which two of these are likely to be a part of conceptual design?



CRC Cards



Correct

Correct! CRC cards are used to get a sense of the classes, components, etc. that your design may have.



Methods



Mockups



Correct

Correct! Mockups help the designers decide on relationships between components.



Abstract data types

5. When during the design process are you likely to produce CRC cards the most?

1 / 1 point



conceptual design



after releasing the software



customer meetings



technical design



Correct

Correct! CRC cards are most often created and used in conceptual design, especially when the team is almost ready to transition into technical design.

6. Which of the following are examples of non-functional requirements? **Choose the three correct answers.**

1 / 1 point



availability



Correct

Correct! That the functions of the system are available for use is as important as the functions themselves. Remember that the function is the system's reason for being.



security



Correct

Correct. The security of a system and how it protects data may be as important as its function. Remember that the function is the system's reason for being.



performance



Correct

Correct. The speed and responsiveness of a system is often as important as what its actual function is! Remember that the function is the system's reason for being.



purpose

7.

1 / 1 point

Select the three categories of objects generally present in object-oriented software.

☐

tool

☒

boundary

**Correct**

Correct! Boundary objects typically interface with another system.

☒

control

**Correct**

Correct! Control objects manage the interactions of other objects.

☒

entity

**Correct**

Correct! Entity objects are the backbone of the system, and often correspond to real life objects.

8.

1 / 1 point

An object which is responsible for showing data to the user could be considered which category of object?

☒

boundary

☐

control

☐

representation

☐

entity

**Correct**

Correct! This object interacts with another "system" (the user), so it is considered a boundary object.

9. You are planning a Professor class as part of your software design. Which of these will you consider a collaborator ? **Choose the two correct answers.**

1 / 1 point

Student

**Correct**

Correct! The student and professor classes will likely be collaborators.



Track Employment Status



Teach Course



Course

**Correct**

Correct! Typically the Professor will have to teach a course, so a course object is likely to be a collaborator.

10. What is a requirement of this form called? "As a ____, I want to ____, so that ____".

1 / 1 point

conceptual mockup



entity abstraction



user story



key concept

**Correct**

Correct! User stories help you to identify the functional requirements of the system.

11. You are a programmer creating software for a bank machine system. Which section of a CRC card for the bank machine component will the "User" go into?

1 / 1 point

- ☒ Collaborator
- ☐ Responsibility
- ☐ Object
- ☐ Class

**Correct**

Correct! Users collaborate with the bank machine component.

12. During conceptual design, you will talk about... **(Choose the three correct answers):**

1 / 1 point

☒ requirements

**Correct**

Correct! Customer requirements of what the system should be and do are the start for all discussions of the design.

☒ tradeoffs

**Correct**

Correct. Every design decision involves trade-offs, even in the early stages of design.



technical diagrams



mockups



Correct

Correct. Mockups are important for customer communication and to start to think about the architecture.