

## 10.6: Study Questions

### ? Study Question 10.6.1

What are the steps in the SDLC methodology?

**Answer**

The steps in SDLC are planning, analysis, design, implementation, and maintenance.

### ? Study Question 10.6.2

What is RAD software development?

**Answer**

RAD is a development methodology focused on quickly building a prototype and iterating based on user feedback instead of detailed specifications.

### ? Study Question 10.6.3

What is the Waterfall model?

**Answer**

The Waterfall model is an SDLC-based model with sequential phases of requirements, design, implementation, testing, and maintenance.

### ? Study Question 10.6.4

What makes the lean methodology unique?

**Answer**

The lean methodology is unique in its focus on launching a minimum viable product quickly and using user feedback to iteratively modify it.

### ? Study Question 10.6.5

What is the difference between the Waterfall and Agile models?

**Answer**

Waterfall uses sequential phases while agile utilizes iterative sprints and continuous user feedback.

### ? Study Question 10.6.6

What is a sprint?

**Answer**

A sprint is a short, fixed time period in agile development during which specific features are implemented.

### ? Study Question 10.6.7

What are three differences between second-generation and third-generation languages?

#### **Answer**

Three differences are: 2GLs are low-level/machine code, 3GLs are closer to human language, 3GLs are portable across platform.

### ? Study Question 10.6.8

Why would an organization consider building its own software application if it is cheaper to buy one?

#### **Answer**

Reasons to build vs buy include greater customization, competitive advantage, and keeping intellectual property in-house.

### ? Study Question 10.6.9

What is the difference between the pilot implementation methodology and the parallel implementation methodology?

#### **Answer**

Pilot rolls out to a subset of users first, while parallel runs new and old systems concurrently for everyone.

### ? Study Question 10.6.10

What are the differences between compiled programming languages and interpreted programming languages?

#### **Answer**

Compiled languages are converted to machine code before execution. Interpreted languages are executed line-by-line by an interpreter program.

### ? Study Question 10.6.11

What is change management?

#### **Answer**

Change management is the process of managing user adoption when introducing a new system through training, support, and communication.

### ? Study Question 10.6.12

What are the four different implementation methodologies?

#### **Answer**

Direct cutover, pilot, parallel, and phased are four implementation methodologies.

### 10.6.1: Exercises

1. Which software-development methodology would be best if an organization needed to develop a software tool for a small group of users in the marketing department? Why? Which implementation methodology should they use? Why?
2. Doing your own research, find three programming languages and categorize them in these areas: generation, compiled vs. interpreted, procedural vs. object-oriented.
3. Some argue that HTML is not a programming language. Doing your own research, find three arguments for why it is not a programming language and three arguments for why it is.
4. Read more about responsive design using the link given in the text. Provide the links to three websites that use responsive design and explain how they demonstrate responsive-design behavior.
5. Discuss advantages and disadvantages of buy vs build.
6. Research the criteria and cost to put a mobile app into Apple's App Store. Write a report.
7. Consider Google Docs or Google Sheets. What end user application - add on would you make it more productive or convenient for your use?
8. Research to find out what elements to use to estimate the cost to build an app. Write a report.
9. Go to a job site and find a software developer job description. What are the required qualifications and skills?
10. Install and try a simple new software application, from a credible source, on your computer or phone. Document your experience going through the implementation and adoption process.
11. Sign up for a free trial of an online software service like project management, email marketing, or accounting. Evaluate their onboarding and training process for new users.
12. Observe someone who doesn't have a technical background use a new software tool. Note any difficulties they encounter and where the product could be more user friendly.

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