

First Quarter Exam

Data Structures and Algorithms by Larry David

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1. Which of the following are benefits of using a version control system? A. ☐ Easy debugging B. ☐ History tracking C. ☐ Enhancing code quality D. ☐ Automatic code deployment E. ☐ Faster development
2. Which of the following is an example of a programming language? A. HTML B. CSS C. Python D. JSON E. XML
3. What is the output of the following code?
4. Explain the concept of database normalization and its importance.
5. Which data structure allows us to store elements in a sorted order? A. Linked List B. Array C. Hash Map D. Binary Search Tree E. Stack
6. What is the output of the following code?
7. Which of the following are key benefits of pair programming? A. ☐ Reduced development time B. ☐ Increased code quality C. ☐ Limited communication D. ☐ Enhanced team collaboration E. ☐ Higher bug density
8. Which of the following are benefits of using a version control system? A. ☐ Tracking changes B. ☐ Managing code conflicts C. ☐ Automating unit tests D. ☐ Enhancing user experience E. ☐ Storing large binary files
9. Which of the following is a fundamental principle of object-oriented programming? A. Abstraction B. Global variables C. Code duplication D. Monolithic architecture E. Linear programming
10. Discuss the key differences between HTTP and HTTPS.
11. Discuss the concept of time complexity in algorithm analysis.
12. Write a Python function to check if a number is prime.
13. What is the output of the following code?
14. Explain the concept of object-oriented programming.
15. Which of the following are Python frameworks for web development? A. ☐ Django B. ☐ Flask C. ☐ React D. ☐ Vue.js E. ☐ Angular

16. Which of the following are characteristics of a good software design? A. ☐ High complexity B. ☐ Loose coupling C. ☐ Tight cohesion D. ☐ Scalability E. ☐ Minimal redundancy