

First Quarter Exam

Data Structures and Algorithms by Larry David

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Identifier: ST005

1. Write a Python function to calculate the factorial of a non-negative integer using recursion.
2. Which of the following is a popular relational database management system? A. MongoDB B. Redis C. Cassandra D. SQLite E. Elasticsearch
3. Write a Python function to calculate the factorial of a non-negative integer without using recursion.
4. Which of the following are key principles of the Agile Manifesto? A. ☐ Heavy documentation B. ☐ Contract negotiation C. ☐ Individuals and interactions over processes and tools D. ☐ Comprehensive project plan E. ☐ Working software over comprehensive documentation
5. Explain the concept of object-oriented programming.
6. Write a Python function to calculate the power of a number using recursion.
7. A hash map data structure allows elements to be stored in a sorted order. ☐ True ☐ False
8. What is the output of the following code?
9. 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
10. Discuss the advantages of using version control systems in software development.
11. Write a Python function to calculate the factorial of a non-negative integer using recursion.
12. Which of the following are key aspects of agile software development? A. ☐ Heavy documentation B. ☐ Predictive planning C. ☐ Adaptive planning D. ☐ Rigidity E. ☐ Collaborative teams
13. What is the output of the following code?
14. What is the output of the following code?
15. Discuss the key differences between HTTP and HTTPS.
16. 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