

# First Quarter Exam

## Data Structures and Algorithms by Larry David

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**Identifier: ST003**

1. Which of the following are commonly used version control systems? A. ☐ Git B. ☐ Mercurial C. ☐ Subversion D. ☐ Perforce E. ☐ ClearCase
2. 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
3. Python is a statically typed programming language. ☐ True ☐ False
4. Java is a purely functional programming language. ☐ True ☐ False
5. Polymorphism is a feature that allows a class to inherit attributes and behaviors from multiple other classes. ☐ True ☐ False
6. What is the output of the following code?
7. A linked list is a linear data structure that stores elements in a contiguous memory block. ☐ True ☐ False
8. 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
9. What is the output of the following code?
10. Object-oriented programming supports encapsulation, inheritance, and polymorphism. ☐ True ☐ False
11. What is the output of the following code?
12. Discuss the concept of time complexity in algorithm analysis.
13. Explain the concept of object-oriented programming.
14. Which of the following is a popular relational database management system? A. MongoDB B. Redis C. Cassandra D. SQLite E. Elasticsearch
15. Which programming paradigm emphasizes immutability and pure functions? A. Procedural B. Object-Oriented C. Functional D. Structured E. Scripting

16. Which of the following is a software design pattern that separates the creation of objects from their usage? A. Observer B. Factory C. Decorator D. Singleton E. Facade