

**1. What is the key characteristic of a stack structure?**

- A. Entries are removed only at the head.
- B. Entries are removed in the order they were stored.
- C. Entries are inserted only at the tail.
- D. Entries are pushed on a stack in a random order.
- **Correct Answer: A**

**2. What is the primary purpose of a queue in data structures?**

- A. Random access of entries.
- B. LIFO structure.
- C. Temporary placement of data for transfer.
- D. Retrieving entries in the reverse order they were stored.
- **Correct Answer: C**

**3. What data structure is often used as the underlying structure of a buffer?**

- A. Stack.
- B. Queue.
- C. Binary tree.
- D. Linked list.
- **Correct Answer: B**

**4. What is the term for a node in a tree that has no more than two children?**

- A. Sibling.
- B. Terminal node.
- C. Binary node.
- D. Root node.

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- **Correct Answer: C**

**5. In a tree structure, what is the root node?**

- A. The topmost node.
- B. The leftmost node.
- C. The rightmost node.
- D. A leaf node.
- **Correct Answer: A**

**6. What is the depth of a tree in terms of the number of nodes?**

- A. The number of children nodes.
- B. The number of layers from the root to a leaf.
- C. The number of branches from the parent.
- D. The number of siblings for a node.
- **Correct Answer: B**

**7. What is the role of a pointer in data structures?**

- A. Store temporary data.
- B. Encode addresses in main memory.
- C. Manage CPU instructions.
- D. Remove entries from a queue.
- **Correct Answer: B**

**8. What is another name for a program counter in the context of data structures?**

- A. Node.
- B. Pointer.
- C. Binary tree.
- D. Instruction pointer.

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- **Correct Answer: D**

**9. How are novels linked in the example shown in Figure 107?**

- A. Alphabetically.
- B. By publication date.
- C. According to authorship.
- D. Randomly.
- **Correct Answer: C**

**10. What term is used for a collection of data that is multidimensional and has internal links between entries?**

- A. Flat file.
- B. Database.
- C. Binary tree.
- D. Queue.
- **Correct Answer: B**

**11. Why did database systems emerge as a means of integrating information in organizations?**

- A. To duplicate information.
- B. To separate information.
- C. To integrate information.
- D. To create separate systems.
- **Correct Answer: C**

**12. What role does database technology play in popular websites like Google, eBay, and Amazon?**

- A. Storing company records.
- B. Managing payroll.

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- C. Providing an interface between clients and databases.
- D. Creating flat files.
- **Correct Answer: C**

**13. What is the main focus of database research in terms of decision-making?**

- A. Integrating data.
- B. Extracting information from data.
- C. Storing data.
- D. Creating flat files.
- **Correct Answer: B**

**14. What is a schema in the context of database systems?**

- A. A one-dimensional storage system.
- B. A description of the entire database structure.
- C. A binary tree structure.
- D. A description of a particular user's needs.
- **Correct Answer: B**

**15. What is the purpose of a subschema in database systems?**

- A. Describing the entire database structure.
- B. Controlling access to information.
- C. Integrating information.
- D. Linking nodes in a tree.
- **Correct Answer: B**

**16. Why is the ability to control access to a database as important as the ability to share information?**

- A. To restrict information.

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- B. To duplicate information.
- C. To integrate information.
- D. To avoid unauthorized access.
- **Correct Answer: D**

**17. What is the role of a subschema for the registrar in a university database?**

- A. Modify faculty salaries.
- B. Access employment history of faculty.
- C. Access student records.
- D. Link students to faculty advisers.
- **Correct Answer: C**

**18. How is the information in a database brought to the decision-making process?**

- A. By creating flat files.
- B. Through database technology.
- C. By integrating data.
- D. Using binary trees.
- **Correct Answer: B**

**19. What is the underlying technology supporting many popular sites on the World Wide Web?**

- A. Binary trees.
- B. Flat files.
- C. Database systems.
- D. Stacks.
- **Correct Answer: C**

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**20. What has the Internet become with the combination of database technology and Web interfaces?**

- A. A storage system.
- B. A means of storing company records.
- C. A major world-wide information source.
- D. A flat file.
- **Correct Answer: C**

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