

1. What is an array?

- a) A data structure that stores elements of the same type sequentially in memory
- b) A data structure that stores elements of different types randomly in memory
- c) A data structure that stores elements of the same type randomly in memory
- d) A data structure that organizes elements in a tree-like hierarchy

Answer: a) A data structure that stores elements of the same type sequentially in memory

Explanation: An array is a collection of elements of the same type that are stored sequentially in memory. Each element is accessed by its index or position in the array.

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2. How is a 1D array initialized?

- a) By assigning values to each element separately
- b) By specifying the size and initializing values using curly braces {}
- c) By specifying the size and using a loop to assign values
- d) By specifying the size and initializing values using parentheses ()

Answer: b) By specifying the size and initializing values using curly braces {}

Explanation: When initializing a 1D array, you specify the size of the array and provide the initial values within curly braces {}.

3. What is bound checking in arrays?

- a) Ensuring that the array is properly bounded within memory limits
- b) Checking if an index is within the valid range for array access
- c) Verifying the data type of elements in the array
- d) Counting the total number of elements in the array

Answer: b) Checking if an index is within the valid range for array access

Explanation: Bound checking involves verifying that the index used to access an array element is within the valid range of indices for that array.

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4. How is a 2D array initialized?

- a) By specifying the size of both dimensions and providing initial values
- b) By specifying the size of one dimension and providing initial values for the other
- c) By using a loop to assign values to each element
- d) By specifying the size of both dimensions without providing initial values

Answer: a) By specifying the size of both dimensions and providing initial values

Explanation: A 2D array is initialized by specifying the size of both dimensions and providing

initial values within nested curly braces {}.

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5. What is the memory map of a 1D array?

- a) It is a diagram showing the physical layout of elements in memory
- b) It is a graphical representation of array indices
- c) It is a table listing the size and data type of elements in the array
- d) It is a representation of array elements in a tree structure

Answer: a) It is a diagram showing the physical layout of elements in memory

Explanation: The memory map of a 1D array depicts how elements are sequentially stored in memory, indicating their addresses and order.

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6. What is a multidimensional array?

- a) An array that can hold elements of different data types
- b) An array with more than one dimension
- c) An array that dynamically adjusts its size
- d) An array that can only store integers

Answer: b) An array with more than one dimension

Explanation: A multidimensional array is an array with two or more dimensions, allowing elements to be arranged in rows and columns or higher-dimensional structures.

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7. What are strings in programming?

- a) A collection of characters treated as a single data entity
- b) A data structure used for storing integers
- c) A type of array that can only store characters
- d) A data structure used for mathematical computations

Answer: a) A collection of characters treated as a single data entity

Explanation: In programming, a string is a sequence of characters, typically used to represent text or words.

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8. Which function is used to find the length of a string in C?

- a) strlen()
- b) strlenlength()
- c) length()
- d) size()

Answer: a) strlen()

Explanation: The strlen() function is used to find the length of a string in C, returning the number of characters in the string excluding the null terminator.

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9. What does the strcpy() function do?

- a) Compares two strings
- b) Concatenates two strings
- c) Copies one string to another
- d) Searches for a substring within a string

Answer: c) Copies one string to another

Explanation: The strcpy() function in C is used to copy the contents of one string to another string.

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10. What is the purpose of strcmp() function?

- a) Concatenates two strings
- b) Copies one string to another
- c) Compares two strings lexicographically

d) Finds the length of a string

Answer: c) Compares two strings lexicographically

Explanation: The strcmp() function compares two strings lexicographically, returning an integer value indicating their relationship (greater than, less than, or equal).