02635 quiz 3

Total Questions: 10

Most Correct Answers: **#6**

Least Correct Answers: **#1**

1. **The complexity of accessing an element of a list of length n**

14/52 (A) is O(1)

22/52 (B) is O(n)

0/52 (C) is O(n^2)

15/52 (D) depends on the list implementation

2. **A stack can be viewed as a special list in which**

35/52 (A) elements can only be inserted or deleted at one end

12/52 (B) elements can only be inserted at one end and deleted from the other

1/52 (C) elements can only be added

1/52 (D) elements cannot be added

2/52 (E) elements can be inserted or deleted at both ends

3. **A queue can be viewed as a special list in which**

2/52 (A) elements can only be inserted or deleted at one end

40/52 (B) elements can only be inserted at one end and deleted from the other

3/52 (C) elements can only be added

1/52 (D) elements cannot be added

5/52 (E) elements can be inserted or deleted at both ends

4. **Given a matrix A of size m-by-n and a vector x of length n, what is the complexity of the matrix-vector product Ax?**

2/52 (A) O(m)

2/52 (B) O(n)

38/52 (C) O(mn)

0/52 (D) O(m^2)

9/52 (E) O(n^2)

5. **Reuse of specific data in memory within a relatively short window of time is referred to as**

11/52 (A) spatial locality

3/52 (B) data locality

36/52 (C) temporal locality

1/52 (D) program locality

6. **Use of nearby memory locations within a relatively short window of time is referred to as**

42/52 (A) spatial locality

2/52 (B) data locality

6/52 (C) temporal locality

1/52 (D) program locality

7. **Endianness refers to**

4/52 (A) the order of elements in an array

0/52 (B) the order of elements in a list

10/52 (C) the string termination character in a char array

37/52 (D) the order of bytes, comprising a multi-byte data type, in memory

8. **Amdahl's law states that theoretical maximum speed-up when using parallel computing is limited by**

3/52 (A) the memory hierarchy

6/52 (B) the CPU speed

5/52 (C) the amount of memory

37/52 (D) code that cannot be parallelized (sequential bottlenecks)

9. **What typically happens to the CPU time when you parallelize parts of a program?**

19/52 (A) It is reduced

32/52 (B) It is increased

10. Generally speaking, automatic memory allocation of local array variables is limited by

12/52   (A)   the amount of cache memory

1/52   (B)   the amount of main memory

35/52   (C)   the size of the program stack

1/52   (D)   the size of a size_t

2/52   (E)   the memory allocation routine malloc