02635 quiz 3   Total Questions: 10

Most Correct Answers: **#3**   Least Correct Answers: **#9**

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

14/56   (A)   is O(1)

17/56   (B)   is O(n)

0/56   (C)   is O(n^2)

24/56   (D)   depends on the list implementation

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

39/56   (A)   elements can only be inserted or deleted at one end

12/56   (B)   elements can only be inserted at one end and deleted from the other

1/56   (C)   elements can only be added

0/56   (D)   elements cannot be added

1/56   (E)   elements can be inserted or deleted at both ends

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

0/56   (A)   elements can only be inserted or deleted at one end

50/56   (B)   elements can only be inserted at one end and deleted from the other

1/56   (C)   elements can only be added

0/56   (D)   elements cannot be added

1/56   (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?

2/56   (A)   O(m)

3/56   (B)   O(n)

38/56   (C)   O(mn)

2/56   (D)   O(m^2)

6/56   (E)   O(n^2)

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

10/56   (A)   spatial locality

2/56   (B)   data locality

39/56   (C)   temporal locality

0/56   (D)   program locality

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

46/56 (A) spatial locality

4/56 (B) data locality

1/56 (C) temporal locality

0/56 (D) program locality

7. Endianness refers to

1/56 (A) the order of elements in an array

2/56 (B) the order of elements in a list

11/56 (C) the string termination character in a char array

37/56 (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

5/56 (A) the memory hierarchy

8/56 (B) the CPU speed

6/56 (C) the amount of memory

32/56 (D) code that cannot be parallelized (sequential bottlenecks)

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

28/56 (A) It is reduced

23/56 (B) It is increased

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

12/56 (A) the amount of cache memory

3/56 (B) the amount of main memory

31/56 (C) the size of the program stack

1/56 (D) the size of a size_t

4/56 (E) the memory allocation routine malloc