# Vector MCQs:

1. What is a vector in C++?
2. A one-dimensional array
3. A resizable array
4. A fixed-size array
5. A multi-dimensional array
6. Which of the following is correct syntax to create an iterator object "itr" to access vector container elements in C++?
7. vector<data\_type>::iterator itr;
8. vector<data\_type>.iterator itr;
9. vector::iterator<data\_type> itr;
10. iterator<data\_type> itr;
11. What is the method used to add an element to the end of a vector in C++?
12. add()
13. insert()
14. push\_back()
15. append()
16. How do you access the first element of a vector named myVector?
17. myVector[0]
18. myVector.first()
19. myVector.front()
20. myVector.at(0)
21. Which of the following methods is used to remove the last element of a vector in C++?
22. erase()
23. pop\_back()
24. remove()
25. delete\_back()
26. What happens if you try to access an element beyond the size of a vector in C++?
    1. Compilation error
    2. Run-time error
    3. Undefined behavior
    4. Segmentation fault
27. Which of the following methods returns the size of a vector in C++?
    1. size()
    2. length()
    3. capacity()
    4. count()
28. How do you clear all elements from a vector in C++?
29. myVector.clear()
30. myVector.empty()
31. myVector.erase()
32. myVector.pop()
33. Which of the following are not correct functions of vector class in C++?
34. begin()
35. rend()
36. rand()
37. cend()
38. What is the syntax to declare a vector of integers named myVector in C++?
39. vector<int> myVector;
40. vector myVector<int>;
41. vector<myVector, int>;
42. vector<int> = myVector;

Answers:

1. B)
2. A)
3. C)
4. C)
5. B)
6. C)
7. A)
8. A)
9. C)
10. A)

# Linked List MCQs

1. What is a linked list?

A) A linear data structure

B) A non-linear data structure

C) A hierarchical data structure

D) A collection of key-value pairs

1. Which of the following is true about a singly linked list?

A) Each node points to the previous node

B) Each node points to the next node

C) Each node points to both the previous and next nodes

D) Each node contains data but no pointers

1. Which of these is not an application of a linked list?

a) To implement file systems

b) For separate chaining in hash-tables

c) To implement non-binary trees

d) Random Access of elements

1. Which operation in a linked list allows adding a new element at the beginning?

A) insertEnd()

B) insertAfter()

C) insertBegin()

D) insertAt()

1. What is the time complexity to insert a node at the end of a linked list?

A) O(1)

B) O(log n)

C) O(n)

D) O(n^2)

1. How do you access the last node in a singly linked list?

A) Traverse from the first node to the last node

B) There is no direct access to the last node

C) Access it using a special pointer called "tail"

D) Access it using a special pointer called "head"

1. What is the space complexity of a linked list with 'n' elements?

A) O(n)

B) O(log n)

C) O(1)

D) O(n^2)

1. Which of the following operations is NOT possible in a singly linked list?

A) Deletion of a node

B) Insertion of a node at the beginning

C) Accessing elements randomly

D) Reversing the list

1. What is the time complexity to delete a node from a linked list?

A) O(1)

B) O(log n)

C) O(n)

D) O(n^2)

1. Consider an implementation of unsorted singly linked list. Suppose it has its representation with a head pointer only. Given the representation, which of the following operation can be implemented in O(1) time?
2. Insertion at the front of the linked list
3. Insertion at the end of the linked list
4. Deletion of the front node of the linked list
5. Deletion of the last node of the linked list
6. I and II
7. I and III
8. I, II and III
9. I, II and IV

Answers:

1. A)
2. B)
3. D)
4. C)
5. C)
6. B)
7. A)
8. C)
9. C)
10. B)

*Ridhiman Dhindsa at 16-Feb-24 8:37 AM*