13 Lecture - CS201

Important Subjective

1. **What is array manipulation?**
   Answer: Array manipulation is the process of performing operations on arrays, such as adding or removing elements, sorting, searching, or modifying the values of existing elements.

2. **How do you declare an array in C++?**
   Answer: To declare an array in C++, we use the following syntax: **data_type array_name[size];**

3. **What is the difference between an array and a linked list?**
   Answer: An array is a collection of elements of the same data type, while a linked list is a collection of elements that are linked together by pointers.

4. **What is the difference between linear search and binary search?**
   Answer: Linear search checks each element of an array in sequence until the target element is found, while binary search divides the array into halves and checks the middle element to determine which half to search next.

5. **How do you add an element to an array in C++?**
   Answer: To add an element to an array in C++, we can use the **push_back()** function in the vector class, or we can create a new array with a larger size and copy the elements from the original array into it.

6. **What is the syntax for accessing an element of an array in C++?**
   Answer: The syntax for accessing an element of an array in C++ is **array_name[index].**

7. **What is the time complexity of bubble sort?**
   Answer: The time complexity of bubble sort is O(n^2).

8. **What is the difference between sorting and searching?**
   Answer: Sorting is the process of arranging elements in a particular order, while searching is the process of finding a specific element in an array.

9. **How do you delete an element from an array in C++?**
   Answer: To delete an element from an array in C++, we can use the **erase()** function or create a new array with a smaller size and copy the remaining elements into it.

10. **What is the advantage of using arrays over linked lists?**
    Answer: Arrays have a simpler implementation and faster access times for random access of elements, while linked lists are more flexible for dynamic insertion and deletion of elements.