The following declaration is for problem 1 and 2:
const int MAX=10;
class AList{
>   **public :**
>>   **AList();**
>>   **void PrintAll();**
>>   **void Delete(int k, int &x, bool &success);**
>>   \\ delete element at the position with index k and save it in x
>>   **void Insert(int k, int x, bool &success);**
>>   \\ insert element x at the position with index k
>>   **…**
>   **private :**
>>   **int list[MAX];**
>>   **int size;**
};
AList Chain;
bool flag;
int y;

1. Assume you have a list of integers stored in a array-based list with the name of **Chain** declared as above and has the following integers:

2	5	8	10	12	18	21			

Show the contents of **Chain** and the value of **flag** after you execute each statement of the following program segment:
>   **Chain.Insert(2, 6, flag);**
>   **Chain.Insert(9, 25, flag);**
>   **Chain.Delete(0, y, flag);**
>   **Chain.Delete(8, y, flag);**

2. Assume you have a list of integers stored in an array-based list with the class name
    AList declared as above. Write the **PrintAll()** method for the **AList** class to prints out
    all values in the list that are greater than **10**.

3. Assume for the following linked list, each node is defined as the structure named
    Node

```
struct Node
{
        int data;
        Node * next;
}
```

    (1) If the list is referenced by a variable **head** initially referring to the first node:

    20 -> 10 -> 32 -> 27

    Give the value for each of the following OR indicate if it is an error:

    _____What is head.data?

    _____What is head.next.data?

    (2) If the listed is pointed by a variable head initially pointing to the first node:

    20 -> 10 -> 32 -> 27

    How do you access 20? _____

    How do you access 32? _____

4. Assume you have a linear list of integers stored in a **linked list** and defined as follows:

```cpp
class List {
        public :
                List();
                ~List();
                void PrintAll();
                void DeleteLast(); //delete the last node from the list
                void InsertHead(int x); //insert to the beginning of the list
                …
        private :
                struct Node{
                        int data;
                        ChainNode * next;
                };
                Node *head; // pointer to first node
};
```

    (a) Write the **PrintAll()** method for the **List** class to prints out all values in the list that are greater than **10**.

    (b) Write the DeleteLast() method for the List class.

    (c) Write the InsertHead() method for the List class.