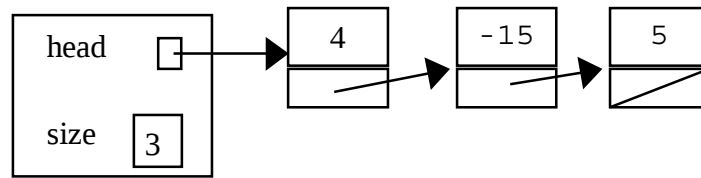


CSE 143 Au00 Quiz 4 – November 16, 2000

Recall from lecture that a Vector can be implemented using a linked list.



Nodes (positions) in the Vector list are numbered from 0, i.e., in the above example, the node containing 4 is at position 0, the -15 is position 1, etc.

For this quiz, implement function `ptrTo`. The input to this function is a position number; the result is a pointer to the node at that position. If the position requested is outside the range of the list, `ptrTo` should return `NULL`. HINT: Keep it simple.

```
struct Node {      // single list node
    int data;
    Node *next;
};

class Vector {
public:
    // public operations omitted to save space
    ...

private:
    // return pointer to node n or NULL if n is out of range
    Node *ptrTo(int n);

    int size; //number of items in the Vector
    Node *head; //pointer to linked list of items, or NULL
                // if Vector is empty
};
```

```
Node * Vector::ptrTo(int n) {
```

```
    // return NULL if n is out of range
    if (n < 0 || n >= size)
        return NULL;

    // locate nth node and return pointer to it
    Node *p = head;
    for (int k = 1; k <= n; k++)
        p = p->next;
    return p;
```

```
}
```