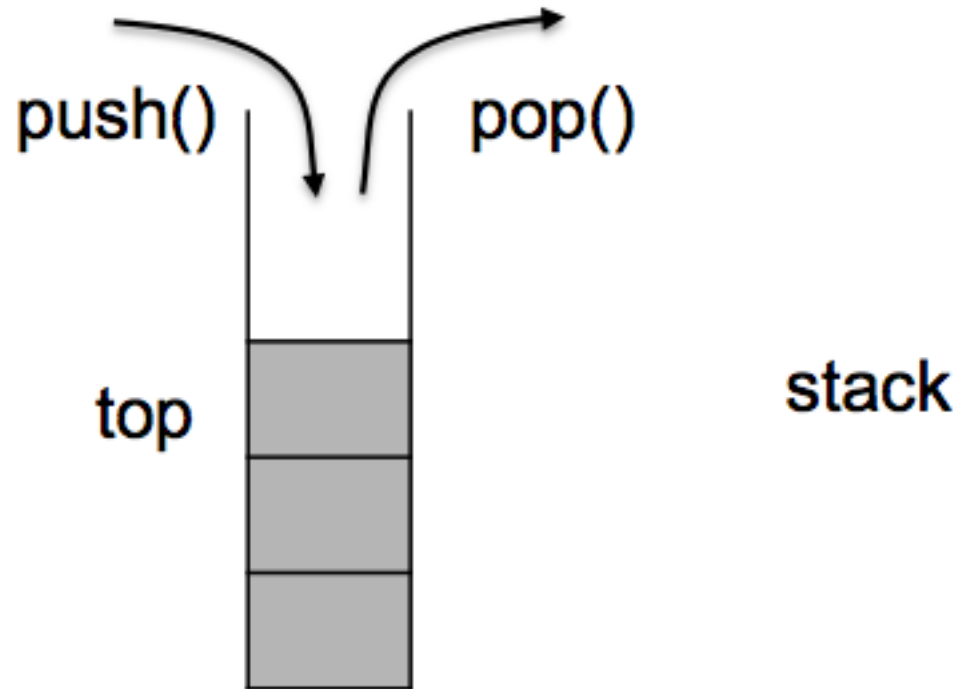


Data Structure in C++

Stack

- Insert/Delete at only one end

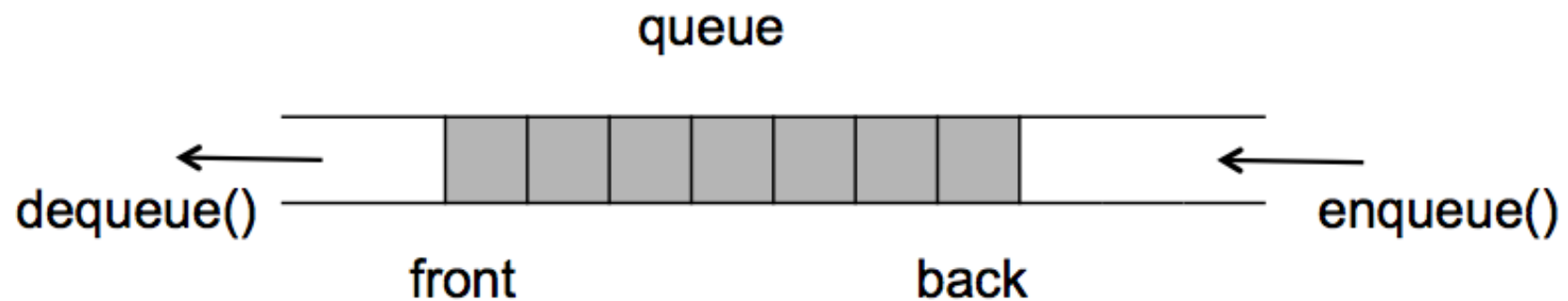


Stack

```
class Stack {  
    public:  
        Stack();  
        void push(T v);  
        T pop();  
        T peek();  
        int count();  
        void clear();  
        bool isEmpty();  
}
```

Queue

- Insert at one end/ Delete at the other end

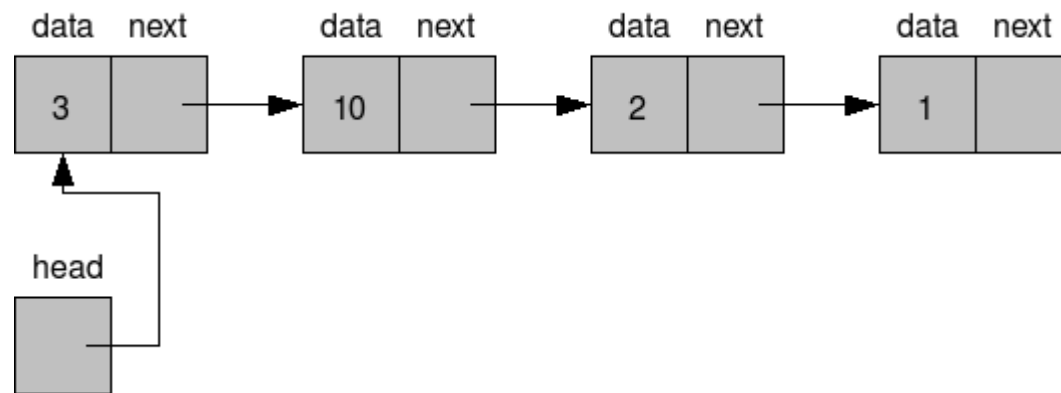


Queue

```
class Queue {  
    public:  
        Queue();  
        void enQ(T v);  
        T deQ();  
        show();  
        int count();  
        T front();  
        T back();  
        bool isEmpty();  
        void clear();  
}
```

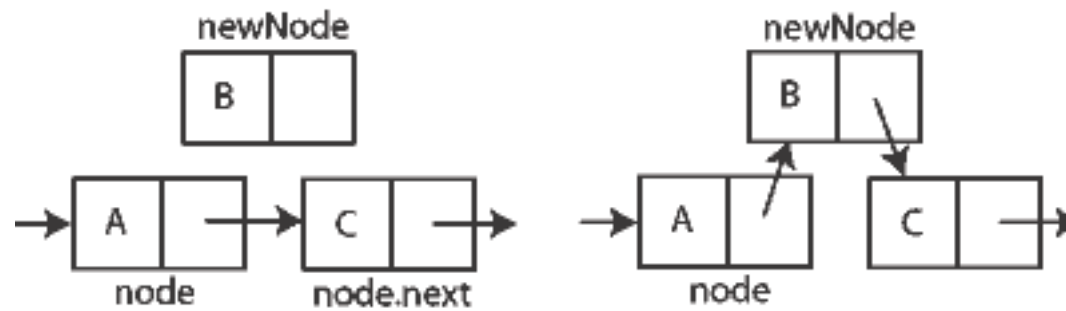
Linked List

- Insert/Delete at any place

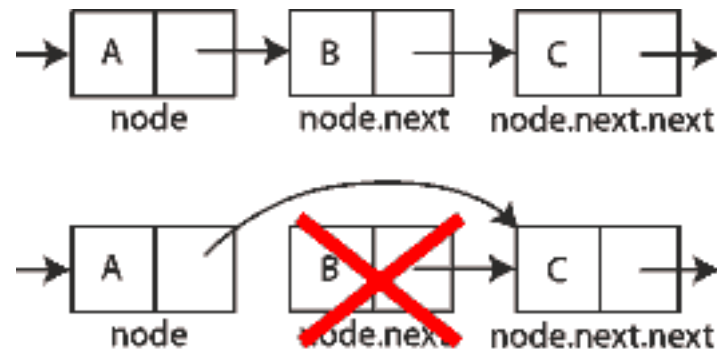


Linked List

- Insert



- Delete



class LList

```
class LList {
    public:
        LList();
        void append(T v);
        void delete(T v);
        void show();
}

class Node {
    T data;
    Node *next;
    public:
        Node(T v, Node *next);
        T getData();
        Node *next();
        void setNext( Node *node );
}
```

base 2 converter

- Convert base 10 digit to base 2 digit
- Use stack: [a, b
- $10 = 1010_2$
 - $10 \% 2 = 0, 10 / 2 = 5$ ([0)
 - $5 \% 2 = 1, 5 / 2 = 2$ ([0, 1)
 - $2 \% 2 = 0, 2 / 2 = 1$ ([0, 1, 0)
 - $1 \% 2 = 1, 1 / 2 = 0$ ([0, 1, 0, 1)
 - 1 0 1 0