一、题目说明

题目208. Implement Trie (Prefix Tree)，实现trie，包括insert、search、startsWith。

二、我的解答

Trie树，又叫“字典树”，“前缀树”。实现代码如下：

```
class Trie{
    public:
        Trie(){
            isEnd = false;
            memset(next,0,sizeof(next));
        }
        ~Trie(){
            for(int i=0;i<26;i++){
                if(next[i] == NULL){
                    continue;
                }else{
                    delete(next[i]);
                    next[i] = NULL;
                }
            }
        }
        void insert(string word){
            Trie* node = this;
            for(char c: word){
                int cur = c - 'a';
                if(node->next[cur] == NULL){
                    node->next[cur] = new Trie();
                }
                node = node->next[cur];
            }
            node->isEnd = true;
        }
        bool search(string word){
            Trie* node = this;
            for(char c: word){
                int cur = c - 'a';
                node = node->next[cur];
                if(node == NULL){
                    return false;
                }
            }
            return node->isEnd;
        }

        bool startsWith(string prefix){
            Trie* node = this;
            for(char c: prefix){
                int cur = c - 'a';
                node = node->next[cur];
                if(node == NULL){
                    return false;
                }
            }
```

```
            return true;
        }

    private:
        bool isEnd;
        Trie* next[26];
};
```

性能如下：

```
Runtime: 84 ms, faster than 54.43% of C++ online submissions for Implement Trie (Prefix Tree).
Memory Usage: 45.9 MB, less than 20.00% of C++ online submissions for Implement Trie (Prefix Tree).
```

三、优化措施