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#include <iostream>
#include <sstream>

using namespace std;

struct node{
    string document;
    struct node * next;
};

struct node * start = NULL;

struct node * newnode(void);

void insertend(struct node*, string); //insert given text at end of the document
void insert(struct node*, int, string); //insert given text at line indicated
void deleteline(struct node*, int); //delete line at index given
void edit(struct node*, int, string); //replace line at index given with line given
void print(struct node*); //print document
void search(struct node *, string); //print line number and line with given text

int main() {

    string temp;
    string input;
    string str_index;
    int index, x;
    stringstream ss;

    while(1){
        getline(cin,input);

        if(input == "print"){ //user inputs print
            print(start);
        }
        else if(input == "quit") //user inputs quit
            break;

        else if(input.substr(0,6) == "search"){ //user inputs search
            temp = input.substr(8);
            temp.pop_back();
            search(start, temp);
        }
        else if(input.substr(0,4) == "edit"){ //user inputs edit
            x = input.find("'",5);
            str_index = input.substr(5,x-5);

            ss<<str_index;
            ss>>index;
            ss.clear();

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        temp = input.substr(x+1);
        temp.pop_back();
        edit(start, index, temp);
    }
    else if(input.substr(0,6) == "delete"){ //user inputs delete
        str_index = input.substr(7);

        ss<<str_index;
        ss>>index;
        ss.clear();
        deleteline(start,index);
    }
    else if(input.substr(0,9) == "insertEnd"){ //user inputs insertEnd
        temp = input.substr(11);
        temp.pop_back();
        insertend(start,temp);
    }
    else{
        x = input.find(" ",7);
        str_index = input.substr(7,x-7);

        ss<<str_index;
        ss>>index;
        ss.clear();

        temp = input.substr(x+2);
        temp.pop_back();
        insert(start, index, temp);
    }
}
return 0;
}

struct node* newnode(string result){
    struct node *t = new node;
    t->document = result;
    t->next=NULL;
    return(t);
}

void insertend(struct node*x, string temp){
    struct node *t;
    t = newnode(temp);
    if(start == NULL)
        start = t;
    else{
        while(x->next != NULL)
            x = x->next;
        x->next = t;
    }
}

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}
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void insert(struct node*x, int index, string temp){
    struct node*prev = NULL;
    struct node* t = newnode(temp);
    int i;
    for(i=1; i<index;i++){
        prev = x;
        x=x->next;
    }
    if(prev == NULL){
        t->next = start;
        start = t;
    }
    else{
        t->next = x;
        prev->next=t;
    }
}
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void deleteline(struct node*x, int index){
    struct node*n;
    struct node*prev = NULL;
    int i;
    for(i=1; i<index; i++){
        prev=x;
        x=x->next;
    }
    if(prev == NULL){
        n=x;
        start=start->next;
    }
    else{
        n=x;
        prev->next=x->next;
    }
    delete n;
}
```

```
void edit(struct node*x, int index, string temp){
    int i;
    for(i=1;i<index;i++){
        x=x->next;
    }
    x->document=temp;
}
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void search(struct node*x, string temp){
    int i = 1;
    while(x){
        if(x->document.find(temp) != -1){
            cout<<i<<" "<<x->document<<endl;
        }
        x=x->next;
        i++;
    }
}
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        break;
    }
    x=x->next;
    i++;
}
if(x==NULL)
    cout<<"not found"<<endl;
}
void print(struct node*x){
    if(x==NULL)
        printf("Document is empty.");
    else{
        int i = 1;
        while(x){
            cout<<i<<" "<<x->document<<endl;
            x = x->next;
            i++;
        }
    }
}
}

```