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1  #include <iostream>
2  #include <cstring>
3
4  using namespace std;
5
6  void print_str(char* str) {
7      for(int i=0; i<strlen(str); i++) {
8          cout << str[i];
9      }
10     cout << endl;
11 }
12
13 void add_one_char(char** str, char c) {
14     char* temp = new char[strlen(*str)+2];
15     for(int i=0; i<strlen(*str); i++) {
16         temp[i] = (*str)[i];
17     }
18     temp[strlen(*str)] = c;
19     temp[strlen(*str)+1] = '\\0';
20     delete [] (*str);
21     (*str) = new char[strlen(temp)+1];
22     strcpy((*str), temp);
23     delete [] temp;
24 }
25
26 void remove_char(char** str, int index) {
27     int size = strlen(*str);
28     char* temp = new char[strlen(*str)];
29     for(int i=0; i<index; i++) {
30         temp[i] = (*str)[i];
31     }
32     for(int i=index+1; i<strlen(*str); i++) {
33         temp[i-1] = (*str)[i];
34     }
35     temp[size] = '\\0';
36     delete [] (*str);
37     (*str) = new char[size];
38     strcpy((*str), temp);
39     delete [] temp;
40 }
41
42 void remove_dups(char** str) {
43     for(int i=0; i<strlen(*str); i++) {
44         for(int j=i+1; j<strlen(*str); j++) {
45             if((*str)[i] == (*str)[j]) {
46                 remove_char(str, j);
47                 j--;
48             }
49         }
50     }
51 }
52
53 int main(int argc, char** argv) {
54     char* str;
55     if(argc != 2) {
56         //get input
57         str = new char;
58         *str = '\\0';
59         cout << "Please give me a string: ";
60         while(cin.peek() != '\\n') {
61             add_one_char(&str, cin.get());
62         }
63         cin.ignore();
64         cin.clear();
65     }
66     else {
67         str = new char[strlen(argv[1])+1];
68         strcpy(str, argv[1]);
69     }

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```
70     print_str(str);
71     remove_dups(&str);
72     print_str(str);
73     delete [] str;
74     return 0;
75 }
76
```