**Problem 1**
Write a program which defines a function which:

- takes a pointer to an array of characters (C-string);
- modifies the array in such a way that after returning:
    1. the string does not contain leading and trailing spaces;
    2. each sequence of more than one spaces is replaced by exactly one space.

  *ATTENTION:*

  *Do not include header <**cstring**> (or <**string.h**>).*
  *The function should work also when the string contains only spaces or is empty.*
  *Do not create any auxiliary arrays.*

The program could look like this:

```cpp
#include <iostream>
using namespace std;

void clean(char* n) {
    // implementation of the function
}

int main() {
    char n1[] = "a   bc def   ghijk";
    cout << "Before: >" << n1 << "<" << endl;
    clean(n1);
    cout << " After: >" << n1 << "<" << endl;

    char n2[] = "  a   bc def    ghijk ";
    cout << "Before: >" << n2 << "<" << endl;
    clean(n2);
    cout << " After: >" << n2 << "<" << endl;

    char n3[] = "    ";
    cout << "Before: >" << n3 << "<" << endl;
    clean(n3);
    cout << " After:>" << n3 << "<" << endl;
}
```

what should print

```
Before: >a   bc def   ghijk<
After: >a bc def ghijk<
Before: >  a   bc def    ghijk <
After: >a bc def ghijk<
Before: >   <
After:><
```

where less-than and greater-than characters are printed to show that there are no additional spaces at the beginning or at the end of the resulting string.

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