

## TP 2 - Problem 11 - I

```
1  #include <cstring>
2  #include <iostream>
3
4  #define SHOW(arg) std::cout << "Macro SHOW "" #arg """: " << (arg) << '\n';
5
6  // Only to learn pointer arithmetic.
7  char const *mystrstr(char const *phrase_ptr, char const *text_ptr) {
8      // Offset from beginning of text.
9      int offset{};
10     while (true) {
11         char const *current_text_ptr{text_ptr + offset};
12         // All the text was scanned, not found...
13         if (*current_text_ptr == '\0')
14             return nullptr;
15         char const *current_phrase_ptr{phrase_ptr};
16         // Scan both strings as long as they are equal.
17         while (*current_text_ptr++ == *current_phrase_ptr++)
18             // All the phrase was scanned, found!
19             if (*current_phrase_ptr == '\0')
```

## TP 2 - Problem 11 - II

```
20     return text_ptr + offset;
21     // Increment the offset.
22     ++offset;
23 }
24 }
25
26 int main() {
27     SHOW(mystrstr("target", "target"))
28     SHOW(std::strstr("target", "target"))
29     SHOW(mystrstr("target", "before-target"))
30     SHOW(std::strstr("before-target", "target"))
31     SHOW(mystrstr("target", "before-target-after"))
32     SHOW(std::strstr("before-target-after", "target"))
33     SHOW(mystrstr("target", "blabla") == nullptr)
34     SHOW(std::strstr("blabla", "target") == nullptr)
35     return 0;
36 }
```

## TP 2 - Problem 11 - III

### Output:

```
1 Macro SHOW "mystrstr("target", "target")": target
2 Macro SHOW "std::strstr("target", "target")": target
3 Macro SHOW "mystrstr("target", "before-target")": target
4 Macro SHOW "std::strstr("before-target", "target")": target
5 Macro SHOW "mystrstr("target", "before-target-after")": target-after
6 Macro SHOW "std::strstr("before-target-after", "target")": target-after
7 Macro SHOW "mystrstr("target", "blabla") == nullptr": 1
8 Macro SHOW "std::strstr("blabla", "target") == nullptr": 1
```