

## TP 2 - Problem 9 - 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 *concatenate(char *dst_ptr, char const *src_ptr) {
8      char *chr_ptr{dst_ptr};
9      while (*chr_ptr != '\0')
10         ++chr_ptr;
11     while (*src_ptr != '\0')
12         // This is very dangerous: welcome to buffer overflow!
13         *chr_ptr++ = *src_ptr++;
14     // C-string: i.e. null terminated string.
15     *chr_ptr = '\0';
16     return dst_ptr;
17 }
18
19 int main() {
```

## TP 2 - Problem 9 - II

```
20 // Leave some enough room for the concatenation.
21 char dst[999]{"a"};
22 // Note that the calls can be stacked.
23 SHOW(concatenate(concatenate(dst, "b"), "cd"))
24
25 return 0;
26 }
```

### Output:

```
1 Macro SHOW "concatenate(concatenate(dst, "b"), "cd)": abcd
```