TP 2 - Problem 4 - I

```cpp
#include <iostream>

#define SHOW(arg) std::cout << "Macro SHOW “" #arg "”: " << (arg) << '\n';

// Pass-by-reference.
void ref_swap(double &x, double &y) {
  double tmp{x};
  // Assign caller variables.
  x = y;
  y = tmp;
}

// Pass-by-reference using pointers.
void ptr_swap(double *x_ptr, double *y_ptr) {
  double tmp{*x_ptr};
  // Assign caller variables.
  *x_ptr = *y_ptr;
  *y_ptr = tmp;
}
```

TP 2 - Problem 4 - II

```
20
21  int main() {
22    double x{1};
23    double y{2};
24    ref_swap(x, y);
25    SHOW(x)
26    SHOW(y)
27    // The operator & must be used explicitly to get the address of x or y:
28    // “&x” is an instance of “double *”.
29    ptr_swap(&x, &y);
30    SHOW(x)
31    SHOW(y)
32    return 0;
33  }
```

TP 2 - Problem 4 - III

Output:

```
1  Macro SHOW “x”: 2
2  Macro SHOW “y”: 1
3  Macro SHOW “x”: 1
4  Macro SHOW “y”: 2
```