

# Macros

```
01 #include <stdio.h>
02
03 #define Min1(x, y) x < y ? x : y
04 #define Min2(x, y) (x) < (y) ? (x) : (y)
05 #define Min3(x, y) ((x)<(y) ? (x) : (y))
06
07 #define Swap1(x, y) {\
08     int __swapTemp = (x);\
09     (x) = (y);\
10     (y) = __swapTemp;\
11 }
12
13 int main() {
14     int i = 42, j = 43, k;
15
16     printf("Min1: %d -- looking good.\n", Min1(i, j));
17     printf("Min1: %d", Min1(k = 44, j));
18     printf(", but k is %d\n", k);
19     printf("Min2 calls: %d vs %d\n", Min2(i, j) + 1, Min2(j, i) + 1);
20     printf("Min3: %d ", Min3(i++, j));
21     printf(", but i is %d\n", i);
22
23     Swap(i, j);
24     printf("After swap i is %d and j is %d\n", i, j);
25 }
26
27 /*Sample run:
28 Min1: 42 -- looking good.
29 Min1: 43, but k is 43
30 Min2 calls: 42 vs 43
31 Min3: 43 , but i is 44
32 After swap i is 43 and j is 44
33 */
```

gcc -E macros.c (with stdio.h dropped)

```
int main() {
    int i = 42, j = 43, k;

    printf("Min1: %d -- looking good.\n", i < j ? i : j);
```