

```

1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <stdarg.h>
4
5  //metaprograming
6  #define SWAP(A, B) { typeof(A) C; C = A; A = B; B = C; }
7
8  //function with flexible number of input arguments
9  void wyswietl(int args, ...) {
10     //list to store additional function arguments
11     va_list list;
12     //last named argument of the function
13     va_start(list, args); //initialize list with all additional function arguments
14
15     va_list list2;
16     va_copy(list2, list);
17
18     for(int i = 0; i < args; i++) { //retrieve element from the list
19         //which is int type in this example
20         printf("argument: %i ma wartosc %i, ", i, va_arg(list, int));
21     }
22     printf("\n");
23
24     for(int i = 0; i < args; i++) {
25         printf("jeszcze raz - argument: %i ma wartosc %i, ", i, va_arg(list2, int));
26     }
27     printf("\n");
28
29     va_end(list); //cleanup for va_start
30     va_end(list2); //cleanup for va_start
31 }
32
33 int main(int argc, char * const argv[]) {
34
35     wyswietl(3, 4, 5, 6);
36
37     int a = 1, b = 2;
38     printf("a: %i, b: %i\n", a, b);
39     SWAP(a, b);
40     printf("a: %i, b: %i\n", a, b);
41
42     float c = 3.14, d = 6.28;
43     printf("c: %.2f, d: %.2f\n", c, d);
44     SWAP(c, d);
45     printf("c: %.2f, d: %.2f\n", c, d);
46
47     return 0;
48 }
49
50

```