

-Function N°01: Selection Sort

```
1 #include <stdio.h>
2
3 void f1(int T[7])
4 {
5     int i, j, tmp;
6     for (i = 0; i < 6; i++) {
7         for (j = i+1; j < 7; j++){
8             if (T[j] > T[i]){
9                 tmp = T[j];
10                T[j] = T[i];
11                T[i] = tmp;
12            }
13        }
14    }
15 }
16 int main()
17 {
18     int T[7]={1, 5, 3, 2, 7, 6, 4};
19     int i;
20     printf("Before\n");
21     for(i=0;i<7;i++){
22         printf("T[%d] = %d\n", i+1, T[i]);
23     }
24     f1(T);
25     printf("After\n");
26     for(i=0;i<7;i++){
27         printf("T[%d] = %d\n", i+1, T[i]);
28     }
29     return 0;
30 }
31
```

```
Before
T[1] = 1
T[2] = 5
T[3] = 3
T[4] = 2
T[5] = 7
T[6] = 6
T[7] = 4
After
T[1] = 7
T[2] = 6
T[3] = 5
T[4] = 4
T[5] = 3
T[6] = 2
T[7] = 1
zed@x:~/c$
```

-Function N°02: Bubble Sort

```
1 #include <stdio.h>
2 void f2(int T[7]) {
3     int i, j, tmp;
4     for (i = 0; i < 6; i++) {
5         for (j = 0; j < 6-i; j++) {
6             if (T[j+1] > T[j]) {
7                 tmp = T[j];
8                 T[j] = T[j+1];
9                 T[j+1] = tmp;
10            }
11        }
12    }
13 }
14 int main()
15 {
16     int T[7]={1, 5, 3, 2, 7, 6, 4};
17     int i;
18     printf("Before\n");
19     for(i=0;i<7;i++){
20         printf("T[%d] = %d\n", i+1, T[i]);
21     }
22     f2(T);
23     printf("After\n");
24     for(i=0;i<7;i++){
25         printf("T[%d] = %d\n", i+1, T[i]);
26     }
27     return 0;
28 }
29
```

```
Before
T[1] = 1
T[2] = 5
T[3] = 3
T[4] = 2
T[5] = 7
T[6] = 6
T[7] = 4
After
T[1] = 7
T[2] = 6
T[3] = 5
T[4] = 4
T[5] = 3
T[6] = 2
T[7] = 1
zed@x:~/c$
```

-Function N°03: Insertion sort

```
1 #include <stdio.h>
2
3 void f3(int T[7])
4 {
5     int i, j, tmp;
6     for (i = 1; i < 7; i++) {
7         tmp = T[i];
8         j = i - 1;
9
10        while (j >= 0 && T[j] < tmp) {
11            T[j+1] = T[j];
12            j--;
13        }
14        T[j+1] = tmp;
15    }
16 }
17 int main()
18 {
19     int T[7]={1, 5, 3, 2, 7, 6, 4};
20     int i;
21     printf("Before\n");
22     for(i=0;i<7;i++){
23         printf("T[%d] = %d\n", i+1, T[i]);
24     }
25     f3(T);
26     printf("After\n");
27     for(i=0;i<7;i++){
28         printf("T[%d] = %d\n", i+1, T[i]);
29     }
30     return 0;
31 }
32
```

```
Before
T[1] = 1
T[2] = 5
T[3] = 3
T[4] = 2
T[5] = 7
T[6] = 6
T[7] = 4
After
T[1] = 7
T[2] = 6
T[3] = 5
T[4] = 4
T[5] = 3
T[6] = 2
T[7] = 1
zed@x:~/c$
```