SapXep.cpp

```cpp
#include <stdio.h>

void xuat(int a[], int n){
    for(int i = 0; i < n; ++i)
        printf("%d ",a[i]);
    printf("\n");
}


void insertionSort(int a[], int n){
    for(int i = 1;i < n; ++i){
        int tam = a[i];
        int j = i-1;
        while(j >= 0 && tam < a[j]){
            a[j+1] = a[j];
            --j;
        }
        a[j+1] = tam;
    }
}
```

```
21
22 void bubleSort(int a[], int n){
23     for(int i = n - 1; i > 0; --i){
24         int swap = 1;
25         for(int j = 0; j < i; ++j){
26             if(a[j] > a[j+1]){
27                 int c = a[j];
28                 a[j] = a[j+1];
29                 a[j+1] = c;
30                 swap = 0;
31             }
32         }
33         if(swap == 1) break;
34     }
35 }
36
```

```
36
37 //selection sort
38 //sap xep chon
39 void selectionSort(int a[], int n){
40     for(int i = 0;i < n-1; ++i){
41         int vt_min = i;
42         for(int j = i + 1; j < n; ++j){
43             if(a[j] < a[vt_min]){
44                 vt_min = j;
45             }
46         }
47         if(vt_min != i){
48             int tmp = a[i];
49             a[i] = a[vt_min];
50             a[vt_min] = tmp;
51         }
52     }
53 }
```

```
54
55 void interchangeSort(int a[], int n){
56     for(int i = 0; i < n - 1; ++i){
57         for(int j = i+1; j < n; ++j){
58             if(a[i] > a[j]){
59                 int tmp = a[i];
60                 a[i] = a[j];
61                 a[j] = tmp;
62             }
63         }
64     }
65 }
66
```

```
67
68 int main(){
69     int n = 6;
70     int a[n] = {15, 2, 3, 1, 0, 8};
71     printf("Mang trc khi sx: ");
72     xuat(a,n);
73
74 //  insertionSort(a,n);
75 //  bubleSort(a,n);
76 //  selectionSort(a,n);
77     interchangeSort(a,n);
78
79     printf("Mang sau khi sx: ");
80     xuat(a,n);
81 }
```