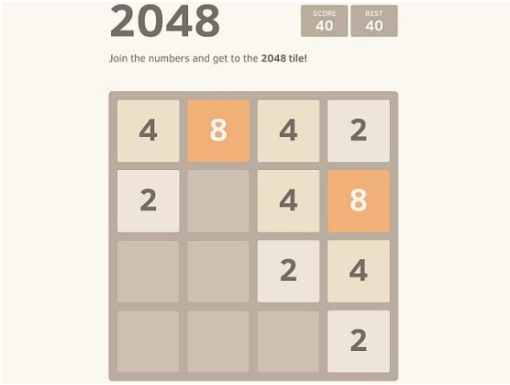
Sorting



1. Sort this array using selection sort. (first print it, then sort it, then print it again).

```
int num[]={16, 1, 516, 2048, 2, 64, 128, 256, 1024, 32, 4, 8};
```

2. Sort this array using bubble sort. (first print it, then sort it, then print it again).

```
String months[]={"January", "February", "March", "April", "May", "June",
     "July", "August", "September", "October", "November", "December"};
```

3. Sort this array using selection sort. (first print it, then sort it, then print it again).

```
char letters[]={'q', 'w', 'e', 'r', 't', 'y', 'u', 'i', 'o', 'p', 'a',
     's', 'd', 'f', 'g', 'h', 'j', 'k', 'l', 'z', 'x', 'c', 'v', 'b',
     'n', 'm'};
```

4. Sort this array using bubble sort. (first print it, then sort it, then print it again).

```
double moreNums[] ={3.45, 6.54, 7.89, 9.87, 2.34, 1.23, 5.78, .4.32,
     .6.45, .8.96, 9.07, 3.67, 0.34, 1.46, 1.47};
```

5. Sort these two arrays by NAME using selection sort. (first print them both, then sort it by name, then print it again). Note: the sun needs to still match when the sorting is done. Check that Puff Shroom is still 0 sunlight, for example.

```
String names []={"Sunflower", "Peashooter", "Cherry Bomb", "Wall-nut",
     "Potato Mine", "Snow Pea", "Chomper", "Repeater", "Puff-Shroom",
     "Lily-Pad", "Squash", "Threepeater", "Tangle Kelp", "Jalapeno"};
int sun[]={50, 100, 150, 50, 25, 175, 150, 200, 0, 25, 50, 325, 25, 125};
```

6. Sort the above two arrays by SUN using selection sort. (sort by name and print again). Note: the names need to still match after the sorting is done. Check that Sunflower is still 50, for example.

Code follows on the next page.

Integer Selection Sort:

```
int a[] = {23, 12, 4, -4, 5, 7, 9, 99, 0, 54};
for (int left = a.length - 1 ; left > 0 ; left--)
{
    int max = 0;
    for (int i = 1 ; i <= left ; i++)
    {
        if (a [max] < a [i])
            max = i;
    }
    int temp = a [max];
    a [max] = a [left];
    a [left] = temp;
}
```

Integer Bubble Sort:

```
int a[] = {5, 62, 81, 9, 30, 42, 0};
for (int i = 0 ; i < a.length - 1 ; i++)
{
    for (int j = 0 ; j < a.length - 1 - i ; j++)
    { // compare the two neighbours
        if (a [j + 1] < a [j])
        { //swap the neighbours if necessary
            int temp = a [j];
            a [j] = a [j + 1];
            a [j + 1] = temp;
        }
    }
}
```