Figure 17.2 Sorting non-ints.

What if, instead of **ints**, we want to sort **Strings**? or **Students**? or **Marks**?

First, rewrite **sort()** with body of **countSmaller** written out in full:

```
[1]  public static void sort (int[] list) {
[1]      int[] sorted = new int[list.length];

         for (int i = 0; i < list.length; i++) {
             int smallerCount = 0;
             for (int j = 0; j < list.length; j++)
[2]              if (list[j] < list[i])
                     smallerCount++;
             sorted[smallerCount] = list[i];
         }

         for (int i = 0; i < list.length; i++)
             list[i] = sortedList[i];
     }
```

To modify **sort()** to work with Strings, here are the changes:

1. On the lines labelled $\boxed{1}$, change **int** to **String**.
2. On the line labelled $\boxed{2}$, change

   if (list[j] < list[i]) to **if (list[j].compareTo(list[i]) < 0)**

To modify **sort()** to work with Students, here are the changes
(assume we're sorting by <u>student number</u>):

1. On the lines labelled $\boxed{1}$, change **int** to **Student**.
2. Change the line labelled $\boxed{2}$ to

   if (list[j].getStunum().compareTo(list[i].getStunum()) < 0)

   - but this requires a change to **sort()** that's dependent on our choice of sorting criterion.
   - what if we want to sort on <u>name</u>, or <u>GPA</u>?