Selection Sort

The Selection Sort Algorithm below sorts an array of integers into ascending order as follows:

1. Loop from `j = 0` to `j = elements.length−2`, inclusive, completing `elements.length−1` passes.
2. In each pass, swap the item at index `j` with the minimum item in the rest of the array (`elements[j+1]` through `elements[elements.length−1]`).

At the end of each pass, items in `elements[0]` through `elements[j]` are in ascending order and each item in this sorted portion is at its final position in the array

```
/**
 * Sort an array of integers into ascending order.
 *
 * @param elements an array containing the items to be sorted.
 *
 * Postcondition: elements contains its original items and items in elements
 *                are sorted in ascending order.
 */
public static void selectionSort(int[] elements)
{
  for (int j = 0; j < elements.length − 1; j++)
  {
     int minIndex = j;

     for (int k = j + 1; k < elements.length; k++)
     {
       if (elements[k] < elements[minIndex])
       {
          minIndex = k;
       }
     }

     int temp = elements[j];
     elements[j] = elements[minIndex];
     elements[minIndex] = temp;
  }
}
```