

Exercises Dec. 9 and 10

1. ADAPTED FROM JUNE 2005, 1

SelectionSort is an $O(n^2)$ time sorting algorithm which works by repeatedly finding and removing the smallest element in a list.

Define in Haskell a function `selSort` which implements SelectionSort.

2. ADAPTED FROM JUNE 2006, 1

The *statistics* of a list is a list of tuples telling how many times each list element appears. As an example, for the list `['a', 'b', 'c', 'a', 'a', 'c']`, the statistics is `[('a',3), ('b',1), ('c',2)]`. The statistics for the empty list is defined to be the empty list. We only consider statistics for lists whose elements are members of the `Ord` class.

Make in Haskell a definition of

```
statistics :: Ord a => [a] -> [(a,Int)]
```

such that `statistics l` is the statistics for the list `l`.