

lab04.js functions using nodemon

```
PS C:\Users\Kraut\Documents\Workspace\erlang-lab> nodemon lab04.js
[nodemon] 3.1.0
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting `node lab04.js`
9474921
{ name: 'Charles', id: 9708935 }
[
  { name: 'Khoi', id: 9278195 },
  { name: 'Codi', id: 9275897 },
  { name: 'Mitiku', id: 9955278 },
  { name: 'Kevin', id: 9803153 },
  { name: 'Amtoj', id: 9381647 },
  { name: 'An', id: 9924708 },
  { name: 'Fred', id: 9773979 },
  { name: 'Mey', id: 9628713 },
  { name: 'Toan', id: 9742306 },
  { name: 'Jd', id: 9562224 }
]
[]
{ name: 'Codi', id: 9275897 }
'TCES'
[
  { name: 'Khoi', id: 9278195, major: 'TCES' },
  { name: 'Codi', id: 9275897, major: 'TCES' },
  { name: 'Mitiku', id: 9955278, major: 'TCSS' },
  { name: 'Kevin', id: 9803153, major: 'TCES' },
  { name: 'Amtoj', id: 9381647, major: 'TCES' },
  { name: 'An', id: 9924708, major: 'TCSS' },
  { name: 'Fred', id: 9773979, major: 'TCES' },
  { name: 'Mey', id: 9628713, major: 'TCES' },
  { name: 'Toan', id: 9742306, major: 'TCSS' },
  { name: 'Jd', id: 9562224, major: 'TCSS' }
]
4
[nodemon] clean exit - waiting for changes before restart
```

lab04.ts functions using nodemon

```

PS C:\Users\Kraut\Documents\Workspace\erlang-lab> nodemon lab04.ts
[nodemon] 3.1.0
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: ts,json
[nodemon] starting `ts-node lab04.ts`
9856349
{ name: 'Charles', id: 9865243 }
[
  { name: 'Khoi', id: 9994206 },
  { name: 'Codi', id: 9024162 },
  { name: 'Mitiku', id: 9120493 },
  { name: 'Kevin', id: 9164307 },
  { name: 'Amtoj', id: 9939881 },
  { name: 'An', id: 9922167 },
  { name: 'Fred', id: 9811705 },
  { name: 'Mey', id: 9079508 },
  { name: 'Toan', id: 9615954 },
  { name: 'Jd', id: 9972224 }
]
[
  { name: 'Codi', id: 9024162 },
  { name: 'Mitiku', id: 9120493 },
  { name: 'Kevin', id: 9164307 },
  { name: 'Mey', id: 9079508 }
]
{ name: 'Codi', id: 9024162 }
'TCES'
[
  { name: 'Khoi', id: 9994206, major: 'TCSS' },
  { name: 'Codi', id: 9024162, major: 'TCSS' },
  { name: 'Mitiku', id: 9120493, major: 'TCES' },
  { name: 'Kevin', id: 9164307, major: 'TCES' },
  { name: 'Amtoj', id: 9939881, major: 'TCES' },
  { name: 'An', id: 9922167, major: 'TCES' },
  { name: 'Fred', id: 9811705, major: 'TCES' },
  { name: 'Mey', id: 9079508, major: 'TCSS' },
  { name: 'Toan', id: 9615954, major: 'TCSS' },
  { name: 'Jd', id: 9972224, major: 'TCSS' }
]
5
[nodemon] clean exit - waiting for changes before restart

```

Mergesort run with anonymous function in shell.

```

> .load sort.js
function mergeSort(arr, comp) {
  if (arr.length <= 1) {
    return arr;
  }
  let mid = Math.floor(arr.length / 2);
  let left = mergeSort(arr.slice(0, mid), comp);
  let right = mergeSort(arr.slice(mid, arr.length), comp);

  return merge(left, right, comp);
}

// const comp = (A, B) => A >= B;

function merge(left, right, comp) {
  let sortedArray = [];
  while (left.length > 0 && right.length > 0) {
    if (comp(left[0], right[0])) {
      sortedArray.push(left.shift());
    } else {
      sortedArray.push(right.shift());
    }
  }

  if (left.length == 0) {
    sortedArray = sortedArray.concat(right);
  }
  if (right.length == 0) {
    sortedArray = sortedArray.concat(left);
  }
  return sortedArray;
}

//console.log(mergeSort([-1, 999, 1, 2, 3, 2, 3, 12, 3, 4, 6, 9, 3, 2, 1], (A, B) => { return A <= B; }));
undefined
> mergeSort([-1, 999, 1, 2, 3, 2, 3, 12, 3, 4, 6, 9, 3, 2, 1], (A, B) => { return A >= B; })
[
  999, 12,  9, 6, 4, 3,
  3,  3,  3, 2, 2, 2,
  1,  1, -1
]

```