

**Homework Project 1**

Given 02/23/2018, Due 03/07/2018

Implement the radixsort algorithm to base  $2^{16}$  for sorting 32-bit unsigned integers given in a linked list. The structure of the linked list is

```
struct listnode { struct listnode * next; unsigned int key;};
```

You write a function

```
struct listnode * sort(struct listnode * a);
```

which returns the listnodes sorted in increasing order. You do not allocate new nodes (or lose track of the given ones).

The programming language is C or C++; test your code before submission using the `gcc` or `g++` compiler. Please remove all dead code; try to program as clearly as possible, since I try to read it.

The code must be written by you; do not use code from the web or share code with another student.

Submit your source code by e-mail to [phjmbrass@gmail.com](mailto:phjmbrass@gmail.com); include the course (220) and homework number in the subject line, and your name as a comment in the homework file.