Programming Workshop – Homework Exercise 2

Publication date: *Wednesday, November 5, 2014*
Due date: *Wednesday, November 12, 2014* @ 21:00

Problem 1:

1. Create a directory called `ex2` under your `exercises` directory.

2. Use `vi` to create a new file in `~/exercises/ex2/` called `headers` that will contain the following text (9 lines total):
   ```
   /*********************************************************
   * Solution to Homework Assignment AAAAAAA
   *********************************************************/


   /*********************************************************
   * Submitted by OOOOOOO
   *********************************************************/

   /***    Problem PPPPPP    ***/
   ```

3. Use `vi` to edit a new empty file in `~/exercises/ex2/` called `problem1`.

4. With a single `vi` command (using '`:`' in the bottom command line) insert the first header (first three lines) from file `headers` into your text.

5. Replace `AAAAAAA` with `2` in the text using as few key strokes as you can from the exact point where the last command left you). All keys count, including `space`, `enter`, and arrows.
   Hint: you can do this with as few as 7 key strokes.

6. Move to the end of the file

7. Similar to (4), with a single `vi` command insert the other two headers from file `headers` (lines 4-9) directly below the existing one.

8. Follow a similar procedure as in (5) to replace the remaining tokens by your name, and the problem number (1)

9. Under the '`Problem 1`' header write three lines with your solution to (4), (5), and (7) above. Each line should contain the sequence of commands and key strokes used to solve the appropriate item (4,5,7). Use '`^M`' combination to indicate `enter` (remember: use `Ctrl-V` for `^`). For example, the first of these three lines, describing your solution to (4), should start with a '`:`' and end with a '`^M`'.

10. Exit and save the file `problem1`.

Problem 2:

1. Use `vi` to edit a new empty file in `~/exercises/ex2/` called `exrc` (without the leading `'.'`!)

2. Use a `':'` command to map the key combination `Ctrl-H` to an operation that will enter the entire `headers` file at the top of your file (from any location in the file)

3. Use a `':'` command to map the key combination `Ctrl-A` to an operation that will find and delete the `AAAAAAA` in the header (from any place in the document) and switch to insert mode (hint: 'change' instead of 'delete').

4. Press `Ctrl-H Ctrl-A` and then the key `2`, to insert a header for Assignment 2.

5. Similar to (3), define two additional `':'` commands that will map `Ctrl-O` and `Ctrl-P` to operations that will find and delete the `OOOOOOO` or `PPPPPPP` in the header, appropriately (from any place in the document), and switch to insert mode.

6. Use a `':'` command to define an abbreviation that will translate the character combination of the first character in your first and last name into your full name (e.g., translate `'ig'` into `'Ilan Gronau'`)

7. Use the macros you defined in (5-6) to update the header to contain your name and problem number (2).

8. Under the header add five text lines for the `':'` commands that you defined in (2-3,5-6), as you would define them in a `.exrc` setup file.

9. Exit and save the file `exrc`.

Submission Instructions:

In the directory `~/exercises/ex2/` you should have three file:

- `headers`

- `problem1`

- `exrc`

All of the files should be placed on the server (in `~/exercises/ex2/`) at the time of deadline (21:00 @ Nov 12, 2014). Any changes made after that point will count as a late submission. For more information see the **Homework submission instructions** file on the course website.