Challenge

Spare Time Teaching

January 28, 2014

You may not add parameters or change the output.

Problem

A happy number is defined as a predicate over a number, specifying if the process of repeatingly summing of the squares of the numbers digits converges (reaches a fix point). That is 19 is happy because:

$$\begin{aligned} 1^2 + 9^2 &= 82 \\ 8^2 + 2^2 &= 68 \\ 6^2 + 8^2 &= 100 \\ 1^2 + 0^2 + 0^2 &= 1 \\ 1^2 &= 1 \end{aligned}$$

Write a function that checks weather a number is happy, using only 14 different functions.

Example

```
> (ch 19)
#t
> (ch 4)
#f
```