

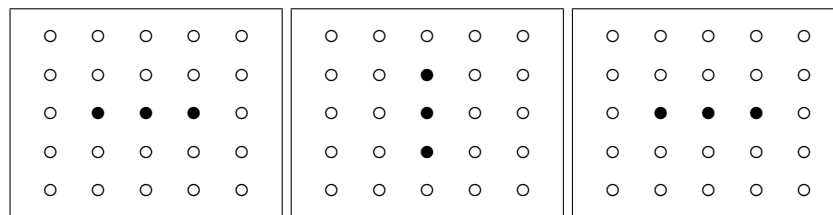
Week 6

The Game of Life

See http://en.wikipedia.org/wiki/Conway's_Game_of_Life

The Game of Life was developed by British mathematician John Horton Conway. In Life, a board represents the world and each cell a single location. A cell may be either empty or inhabited. Every cell interacts with its eight neighbours, which are the cells that are horizontally, vertically, or diagonally adjacent. At each step in time, the following transitions occur:

1. **Survival** An inhabited cell remains inhabited if exactly 2 or 3 of its neighbouring cells are inhabited.
2. **Death** An inhabited cell becomes uninhabited if fewer than 2, or more than 3 of its neighbours are inhabited.
3. **Birth** An uninhabited cell becomes inhabited if exactly 3 of its neighbours are inhabited.



Given an input from a file of the type:

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16 16
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---#-----
---###-----
---#-----
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```

write a program to show generations of the board.

You may assume that the board is never greater than 50×50 .

The name of the input file should be specified on the command line, making use of `argc` and `argv` in `main()`. For example, if the program is called `life`, then it will be executed using :

```
$ life infile.txt
```

For more on `argv` see <http://www.thegeekstuff.com/2013/01/c-argc-argv/>

Once your program is working (and only then), extend it to include an SDL display of the board generations.