Hands-on activities 2

Arrays

Conway's Game of Life

- The Game of Life, also known simply as Life, is a cellular automaton devised by the British mathematician John Horton Conway in 1970. (https://en.wikipedia.org/wiki/Conway%27s_Game_of_Life)

Conway's Game of Life

- Implement the Game of Life using ASCII visualization
- Game of Life is an infinite grid of square cells, each of which is in one of two possible states: **alive** (U + 2B1B) or **dead** (space).

- Every cell interacts with its eight neighbors.
- At each step in time, the following transitions occur:
  - Any **live** cell with **less than two live neighbors dies**
  - Any **live** cell with **two or three live neighbors lives** on to the next generation
  - Any **live** cell with **more than three live neighbors dies**
  - Any **dead** cell with **exactly three live neighbors becomes a live** cell

- The initial pattern constitutes the seed of the system (input).
- The first generation is created by applying the rules to every cell
- Use the following to clear the console

```
System.out.print("\033[H\033[2J");
System.out.flush();
```