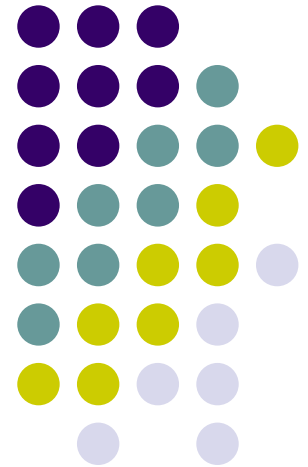


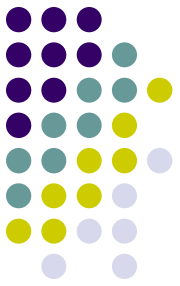
Game of Life in 21st Century

ECE817 Presentation
By Kyusik Chung

2003. 6. 9.



John Conway's Game of Life



Rule of John Conway's Game of Life

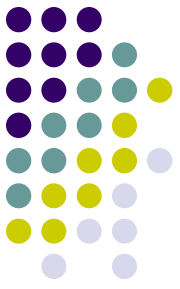
Birth – A dead cell with exactly three live neighbors becomes a live cell

Survival – A live cell with two or three live neighbors stays alive

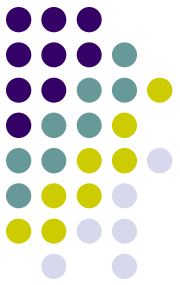
Overcrowding or **Loneliness** – In other cases, a cell dies or remains dead

- Each cell considers 8 neighbors adjacent to itself
- Many interesting patterns based on a same rule (glider, exploder, pump, and etc)
- We want to change the rule or GOL itself!!

21st Century is Internet Era

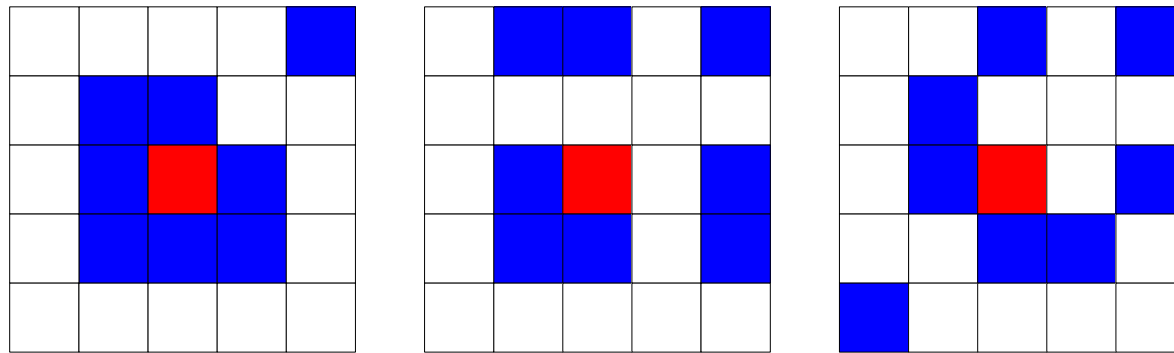


- We are connected to the network
- We don't have to be in the same place for the communication
- We have a chat with foreigners in our room
- Loneliness is not the problem of physical distance
⇒ **Redefinition of neighbor**



Redefinition of Neighbor

- Neighbor need not to be near the cell
- We make new neighbor patterns



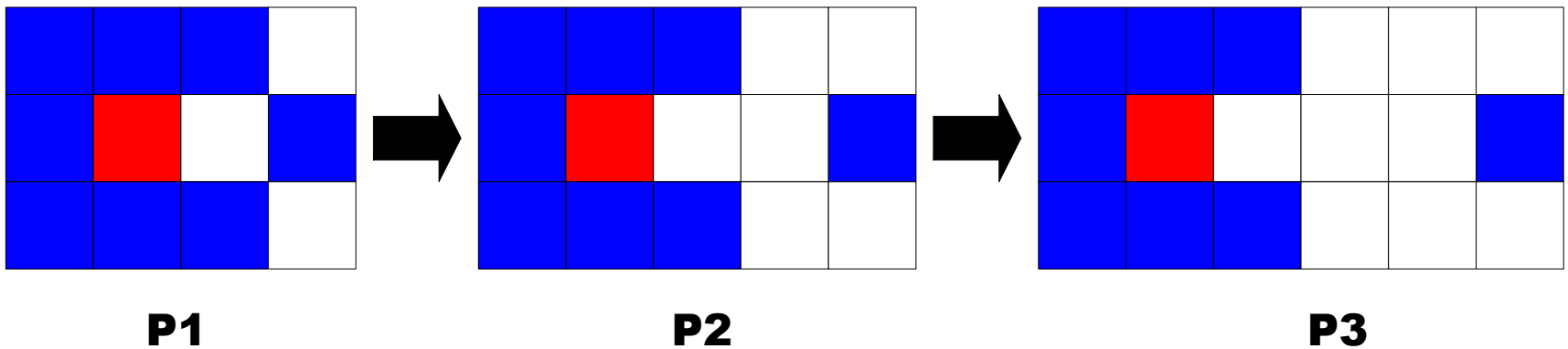
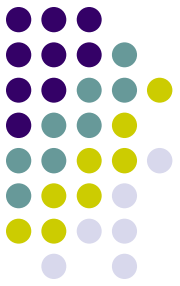
- Different patters make different GOL
- Redefinition of neighbor make GOL more interesting

Programming Environment



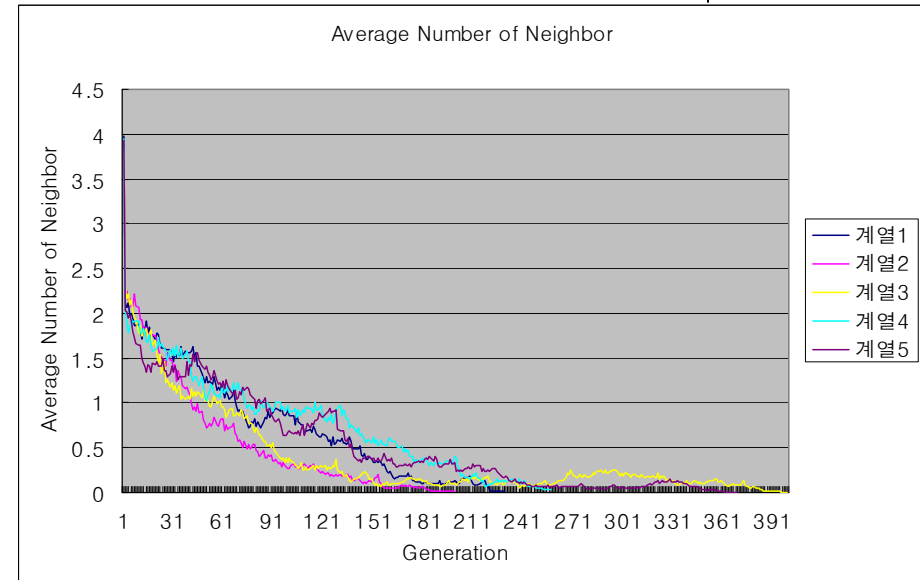
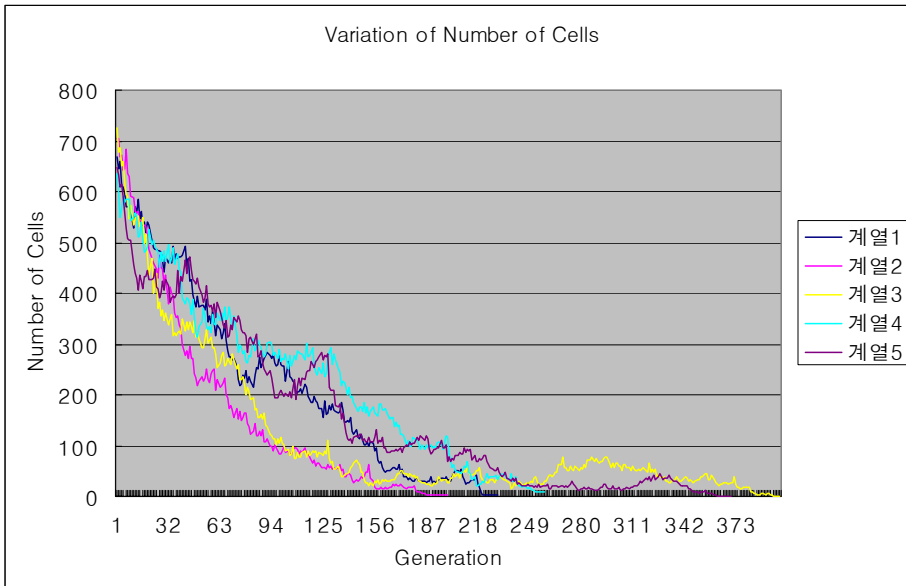
- Edwin Martin's Game of Life v1.3
- Java Applet
- Randomly generates initial patterns
- Change the definition of neighbor

One neighbor goes to right



- We have a separated neighbor
- Neighbor goes to right
- What will happen?

Result of P1



- Almost cells die
- Decreasing trend for random initial patterns
- Average alive generation is 300