

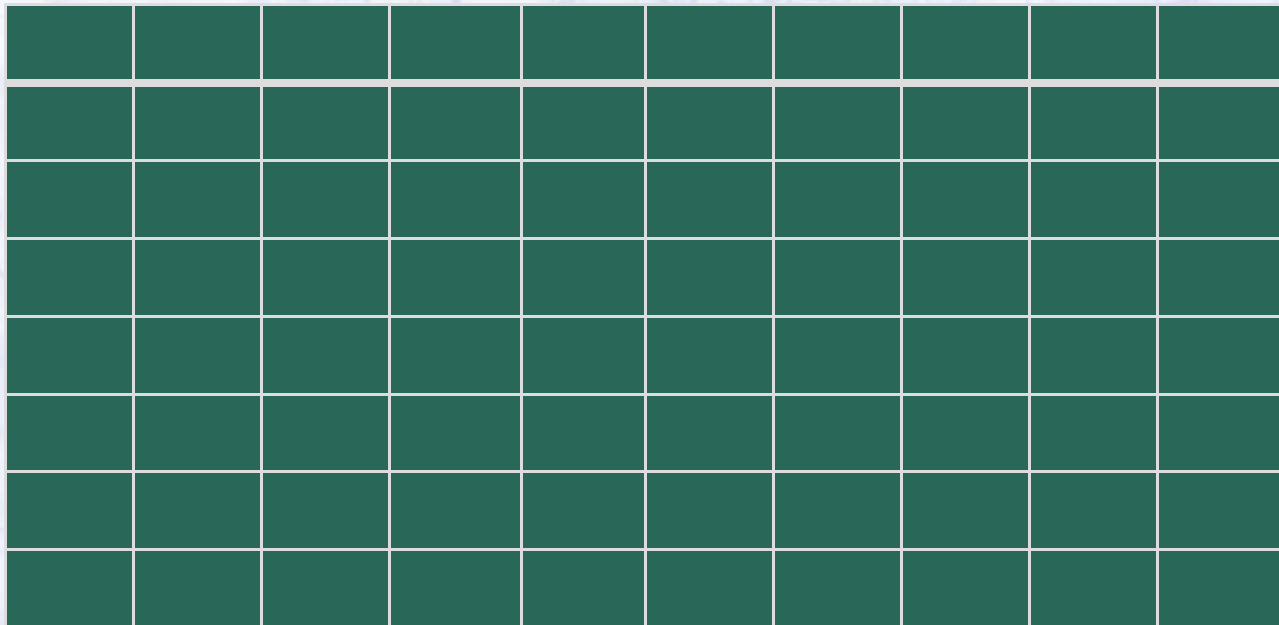
The background of the slide features a light blue, semi-transparent illustration of a clock face. The clock has large, ornate hands and is surrounded by various gears of different sizes. The word "INNOVATION" is written in a bold, sans-serif font across the upper portion of the clock face. A dark blue horizontal band with a fine grid pattern is positioned across the middle of the slide, containing the title text. On the left side, there is a vertical strip showing a portion of a globe with green continents and blue oceans.

Game of Life

Game of Life

It consists of a collection of cells which, based on a few mathematical rules, can live, die or become alive .

Depending on the initial conditions, the cells form various patterns throughout the course of the game.



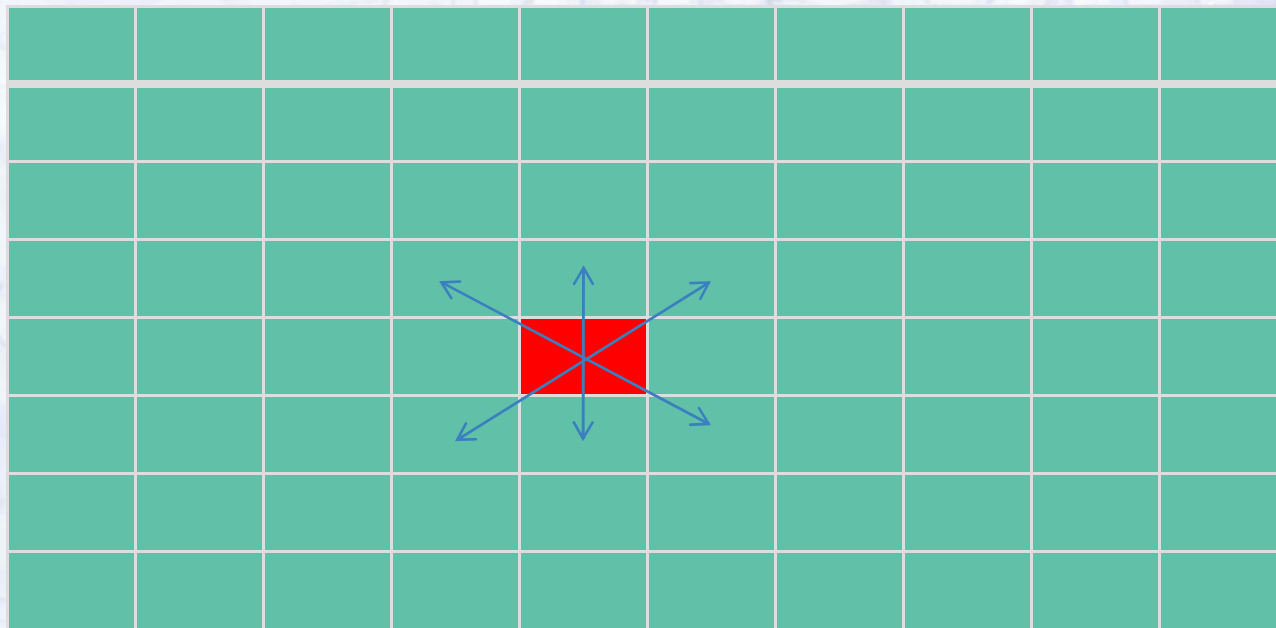
Game of Life

Each cell's value is calculated from its neighboring eight cell .

INNOVATION

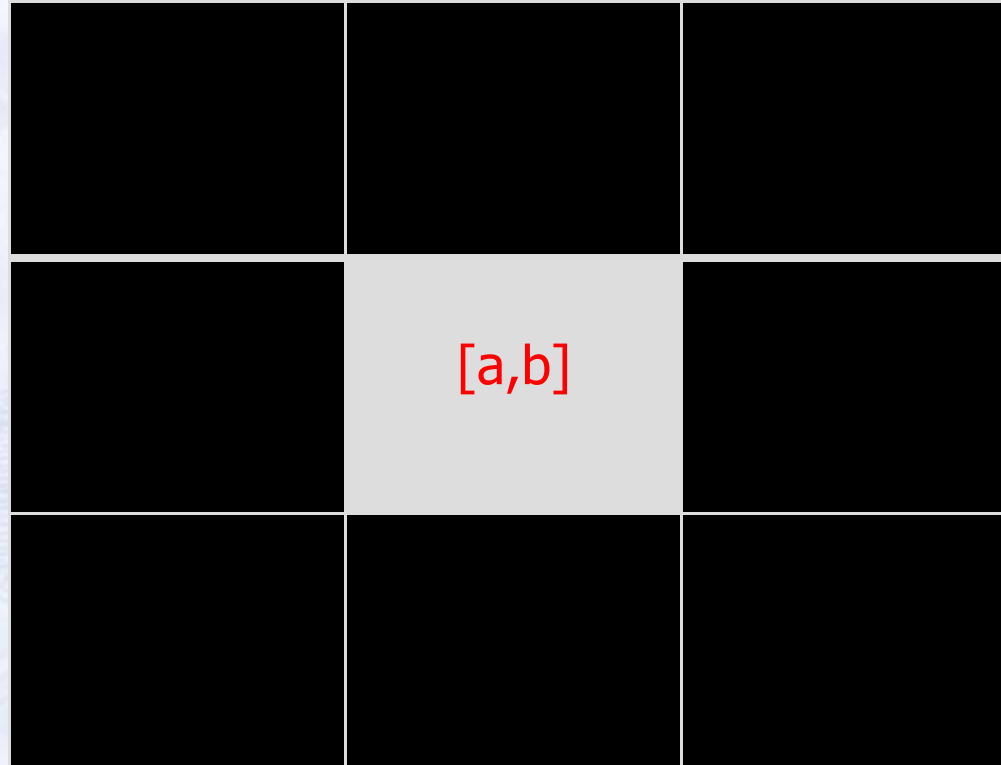
Game of Life

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Game of Life

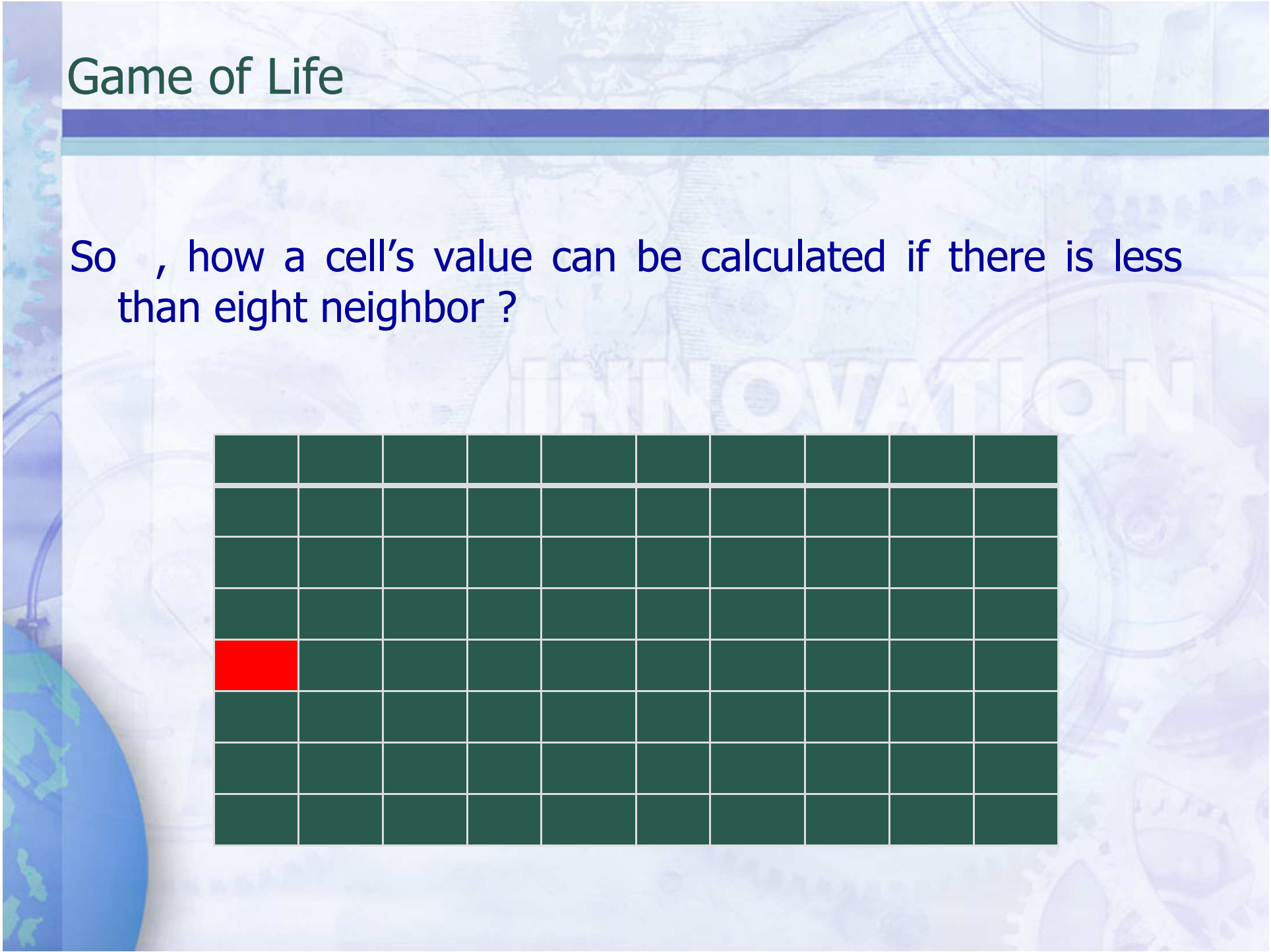
Each cell's value is calculated from its neighboring eight cell .



Game of Life

Each cell's value is calculated from its neighboring eight cell .

$[a-1,b-1]$	$[a-1,b]$	$[a-1,b+1]$
$[a,b-1]$	$[a,b]$	$[a,b+1]$
$[a+1,b-1]$	$[a+1,b]$	$[a+1,b+1]$

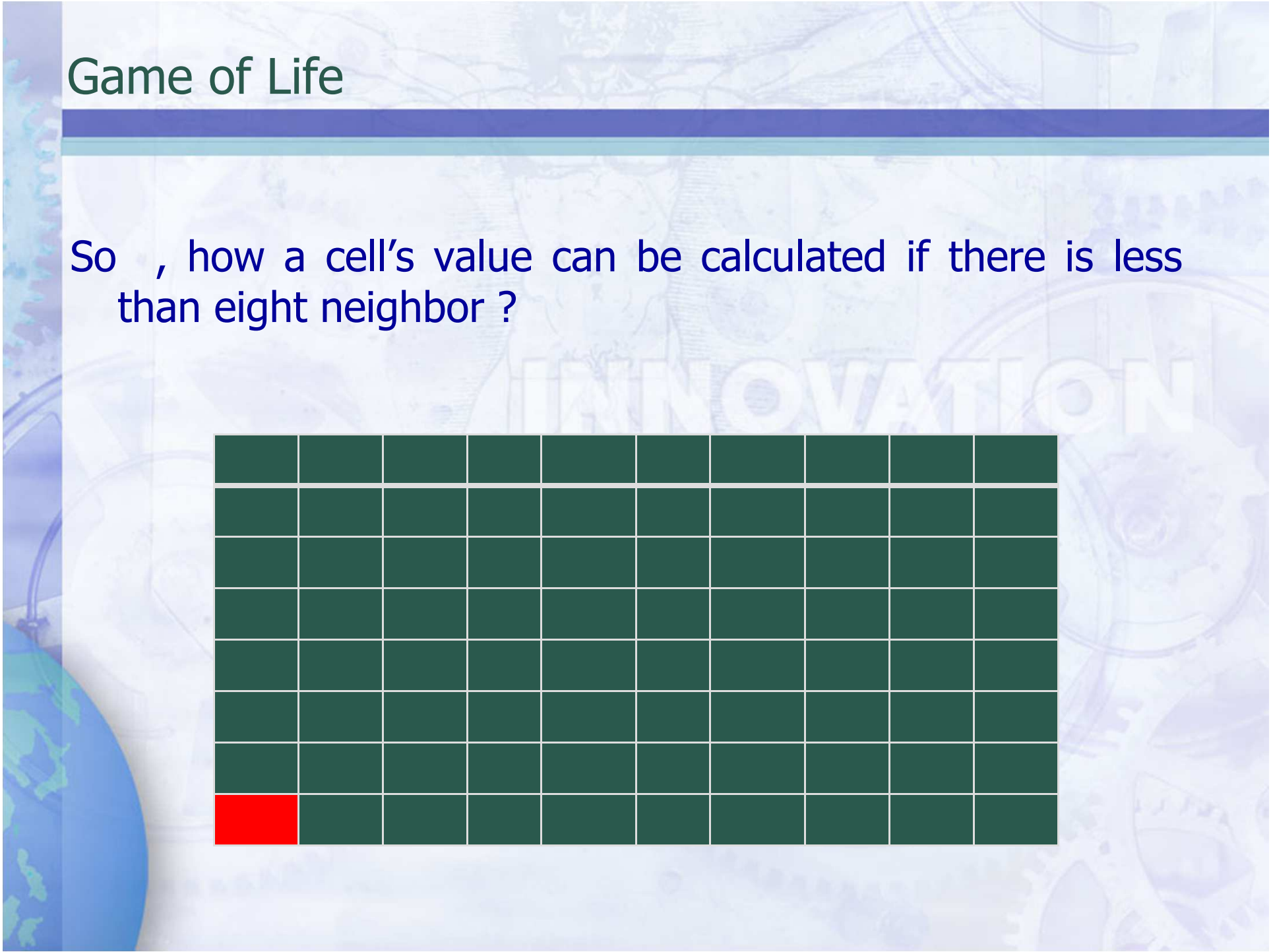
[illegible][illegible]

[illegible]

Game of Life

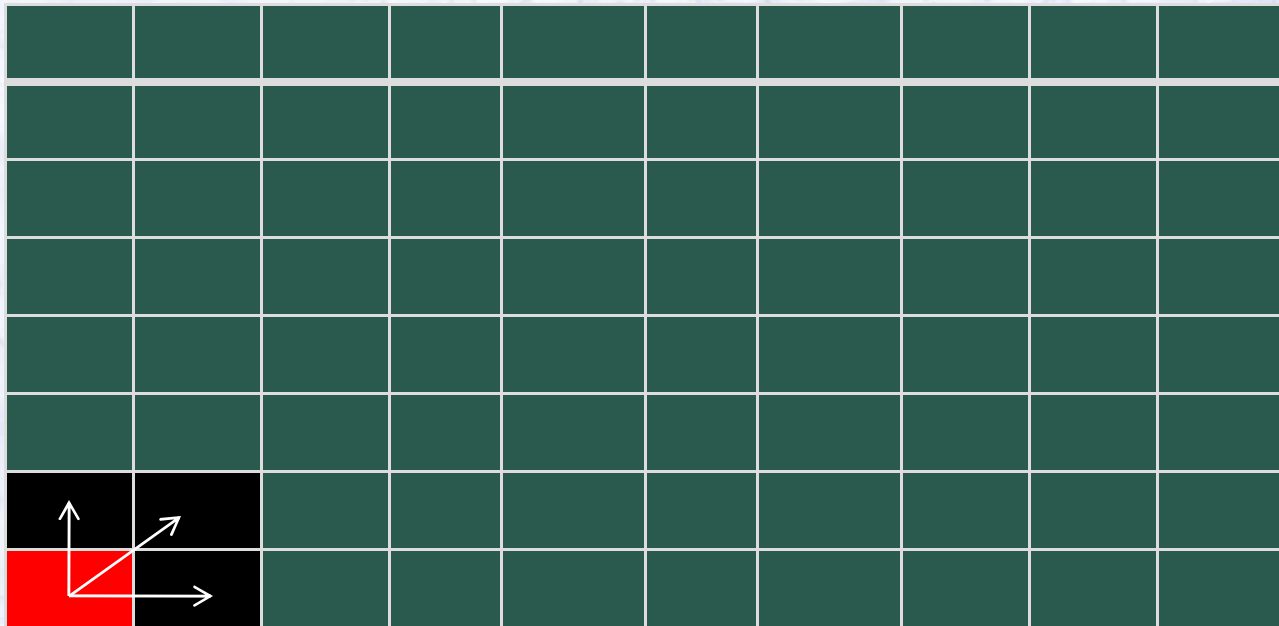
So , how a cell's value can be calculated if there is less than eight neighbor ?

A 10x8 grid representing a Game of Life board. The bottom-left cell is red.



Game of Life

So , how a cell's value can be calculated if there is less than eight neighbor ?



Game of Life Rules :

A dead cell with exactly three live neighbors becomes a live cell (1 = live , 0 = dead)

[illegible]

[illegible]

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[illegible]

[illegible]

[illegible]

Game of Life Rules :

In all other cases, a cell dies or remains dead because of overcrowding (>3 neighbor) or loneliness (<2 neighbors).

[illegible]

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[illegible]

Game of Life Rules :

In all other cases, a **cell dies** or remains dead because of **overcrowding (>3 neighbor)** or loneliness (<2 neighbors).

[illegible]

Complexity

Let consider we have $[n \times n]$ grid

Then how many calculations are required ?

INNOVATION

Questions or Suggestion



The background of the slide features a light blue, semi-transparent illustration. It depicts a complex mechanical system with several interlocking gears of different sizes. A prominent lightbulb is shown in the center, with lines radiating from it, suggesting it is turned on and emitting light. The overall aesthetic is technical and innovative.

INNOVATION

How to Code Game of Life