

# μGOL

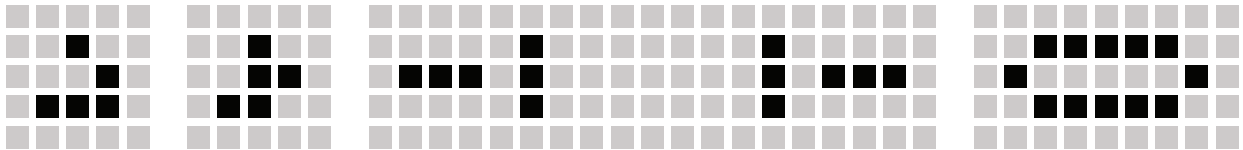
GAME OF LIFE SIMULATOR BY KVEE

μGOL is an implementation of John Conway's Game of Life. It focuses on simulating small, border-wrapped fields up to 512x512.

Game of Life's rules are simple: You have an theoretically infinite matrix made of cells, while each cell can be either alive or dead. If a cell is alive and has 2 or 3 neighbors, it stays alive, otherwise it dies. If a dead cell has 3 live neighbors, it becomes alive, otherwise it remains dead. The whole new generation is calculated from the previous state, i.e. no changes are made to the field during the calculations.

For a basic operation, start the program, press Enter, press G for a grid, draw an initial pattern with your mouse, press G to turn the grid off and press T. Pressing M toggles the "smooth" rendering, which leaves a small trail behind the cells that were alive and are now dead. Advanced commands are listed in the chart below.

Some interesting patterns:



(please note that in μGOL, unlike this manual, live cells are white and dead cells are black)

## COMMAND LIST

SIZE SELECT SCREEN	SIMULATION SCREEN	DRAWING (SIMULATION ONLY)																																												
<table border="1"> <tr> <td>←</td> <td>↑</td> <td rowspan="2">CHANGE FIELD SIZE</td> </tr> <tr> <td>↓</td> <td>→</td> </tr> <tr> <td>+</td> <td colspan="2">ZOOM IN</td> </tr> <tr> <td>-</td> <td colspan="2">ZOOM OUT</td> </tr> <tr> <td>SPC</td> <td colspan="2">ENABLE / DISABLE CROSS-BORDER WRAPPING</td> </tr> <tr> <td>↩</td> <td colspan="2">START SIMULATION</td> </tr> <tr> <td>ESC</td> <td colspan="2">EXIT THE PROGRAM</td> </tr> </table>	←	↑	CHANGE FIELD SIZE	↓	→	+	ZOOM IN		-	ZOOM OUT		SPC	ENABLE / DISABLE CROSS-BORDER WRAPPING		↩	START SIMULATION		ESC	EXIT THE PROGRAM		<table border="1"> <tr> <td>+</td> <td>ZOOM IN</td> </tr> <tr> <td>-</td> <td>ZOOM OUT</td> </tr> <tr> <td>ESC</td> <td>EXIT THE PROGRAM</td> </tr> <tr> <td>R</td> <td>RANDOMIZE BOARD (ALSO RESETS GEN COUNTER)</td> </tr> <tr> <td>C</td> <td>CLEAR BOARD (ALSO RESETS GEN COUNTER)</td> </tr> <tr> <td>G</td> <td>GRID ON/OFF N/A AT 1x / 2x ZOOM LEVELS</td> </tr> <tr> <td>M</td> <td>TOGGLE SMOOTH RENDER ON/OFF N/A WITH GRID</td> </tr> <tr> <td>A</td> <td>MANUAL ADVANCE ONE GENERATION</td> </tr> <tr> <td>T</td> <td>TOGGLE AUTO ADVANCE EVERY 40 ms</td> </tr> <tr> <td>S</td> <td>TOGGLE SEQUENTIAL BMP IMAGE OUTPUT</td> </tr> </table>	+	ZOOM IN	-	ZOOM OUT	ESC	EXIT THE PROGRAM	R	RANDOMIZE BOARD (ALSO RESETS GEN COUNTER)	C	CLEAR BOARD (ALSO RESETS GEN COUNTER)	G	GRID ON/OFF N/A AT 1x / 2x ZOOM LEVELS	M	TOGGLE SMOOTH RENDER ON/OFF N/A WITH GRID	A	MANUAL ADVANCE ONE GENERATION	T	TOGGLE AUTO ADVANCE EVERY 40 ms	S	TOGGLE SEQUENTIAL BMP IMAGE OUTPUT	<table border="1"> <tr> <td></td> <td>SET CELL (LIVE STATE)</td> </tr> <tr> <td></td> <td>RESET CELL (DEAD STATE)</td> </tr> </table>		SET CELL (LIVE STATE)		RESET CELL (DEAD STATE)
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