

Question 4

Conway's game of life

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1 Approach to the problem:

1. Initially a random array(a) of 100X100 was generated with elements either 1 or 0 to represent alive or dead respectively.
2. Another array(c) of same size was initialised and each element of this array contains the value of number of neighbours of that element
3. As per Conway's game of rules each element of c is read and assigned values again.And now c is equated back to a,which results in a new matrix.
4. Process 2 and 3 are repeated for 300 iterations and stored as images
5. These images were converted to gif using gimp

Language Used: Octave

Reason of choice:

1. Octave considers image as a matrix in which each pixel is one element of the array.Therefore I felt it was easy to do image processing in octave with manipulations in the array
2. There was no need of importing any external library or package in octave for this program
3. In octave,if the element of matrix is 1,then it is considered black and considered white when it is zero