Game of Life Steps:

Give the user some options, some parameters they can set:

Take user input for x,y dimensions

Take user input for number of timesteps

Take user input for sleep times

Take user input for file name for HDF5 file

Use optparse module

Initialize a 2D numpy array with 0’s and 1’s (seeding):

0’s represent dead cells (white)

1’s represent alive cells (black)

Use numpy random numbers function (numpy.rand)

Round numbers up/down to 0 or 1

Run the Game:

Loop over time steps

At each time step, what do you do?

Copy the grid (old and new versions)

Modify the new grid based on the rules

(requires you to loop over the old 2D grid)

Finalize grid at new timestep

Plot new grid using matplotlib’s “imshow”

Store new grid in an HDF5 file (after everything else works)

Sleep

Not Extra Credit: Run the Game Again from HDF5:

Take user input to read in HDF5 file with pre-computed timestep grids

Read Number of timesteps from HDF5 file

Loop over timesteps

Read in 2D timestep grid from HDF5 into numpy array

Plot using imshow

Sleep option