```
Clear["`*"]
(* After 1D CA we turn to two dimensional
  CA. Still each cell can have two states. BUT
  there are now 8 neighbours. 3 above and below and one
  to the right and one to the left. So including the
  middle cell there are 2^9=512 states for these
  cells. Can you tell how many CA rules we then have?
   The most famous of these is called Game of Life,
http://en.wikipedia.org/wiki/Conway%27s_Game_of_Life
   and http://mathworld.wolfram.com/GameofLife.html *)
(* This example is for rule 746. I call it circular growth. The
  birth rule (white->black) is exactly 3 living neighbours.
   Survival (black→black) if no more than 4 neighbours are
  alive. Death ( black→white) if there are 5-8 living neighbours
  in the previous generation. Game of Life is rule 224. Same birth
  condition as for Circular Growth but death happends due to lonliness
  (0 or 1 living cell next to the cell) or over population
  (4-8 living cells around the middle cell). As in our world!
  If you write 746 and 224 in base 2 I hope you can
  figure out how this rule numbers are obtained.*)
CircularGrowth = {746, {2, {{2, 2, 2}, {2, 1, 2}, {2, 2, 2}}}, {1, 1}};
(* This list above specifies the 2D CA*)
seed = Table[0, {200}, {200}];
seed[[98, 100]] = 1;
seed[[99, 100]] = 1;
seed[[100, 100]] = 1;
seed[[102, 100]] = 1;
(* seed is the input matrix. Here we start with a "worm", or better seed,
with 5 cells but the next lowest is dead (ill) to begin with.
   200 iterations. In fact something shocking happends after 3000
  iterations for this seed. To see it you have to have a big matrix and
  it takens around 25 minutes one my machine. For five healthy
  cells in a row this effect has not been seen. It seems like
  radius of ball is =C * (number of iterations). Can you estimate C?*)
ArrayPlot[CellularAutomaton[CircularGrowth, seed, {{{200}}}]]
(* If you want to see Circular Growth - The Movie you use instead:
   Animate[ArrayPlot[CellularAutomaton[CircularGrowth,seed,{{{n}}}],
     Mesh→False],{n,0,200,1},AnimationRate →10, AnimationRunning→False]*)
```