In[35]:=
```
(* This example is for rule 30 *)
Clear["`*"]
(* This is one of the 256 cellular automata which is one dimensional,
has two states (black or white) and next state
   in a cell depends only on previous state of itself and
   the 2 nearlying neighbours. Think of a long chain of houses.
    Each person in there can be happy or sad. The state next
   day depends on your mood the day before and on the mood
   of the people next-doors. Ther are 2^8=256 different rules for
   what can happen. Most of them are boring but especially rule 30
   and 110 are very interesting. See http://
  en.wikipedia.org/wiki/Cellular_automaton *)
dim = 1000;
dim2 = dim / 2;
seed = Table[0, {dim}];
seed[[dim2]] = 1;
(* seed is the start state. We have 1000 cells in a row
 and all are white (0) execpt for the one in the middle (1) .
  The array plot below shows the evolution for
 500 generations. Time is downwards.*)
ArrayPlot[CellularAutomaton[30, seed, 500]]
(* This command  will give the same
 plot : ArrayPlot[CellularAutomaton[30,{{1},0},1000]]. CellularAutomaton
   is thus a command in Mathematica *)
(* If you want to see Rule 30 - The Movie you use
  instead: Animate[ArrayPlot[CellularAutomaton[30,{{1},0},n]],
      {n,1,100,1},AnimationRunning→False].
     One black cell to start with also here. One iteration is already
    done so we have a black T upside down. 100 iterations with step 1.*)
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Out[40]=