GrowthPattern.java

While most science experiments overtly track two variables, for this assignment, assume the index reflects time (time = 0 is the time the experiment started, time = 1 is after one unit of time). You are monitoring the growth in height (in mm) of a plant. You are graphically conveying results as a vertical histogram (time is on the vertical or y axis, unlike typical representations).

- Use a 1-D Array with the following data in order (recall that the leftmost value is at time = 0):
  -1, -3, 1, 2, 3, 4, 3, 4, 4, 6, 8, 6, 6, 7, 10
  These numbers represent the height of the plant for a given time. The height can go down if the plant is not watered, for example.
- Print the time (the index for an array element) left justified in a field of 3, a tab, then the number of characters to indicate the height of the plant, based on 5+ the value in the array. This way negative values can be also displayed. Use variables – no constant values from your array.
- If the array value is higher than the one immediately prior to it, for the printing described immediately above, use the character '+'. If it is less, use '-'. If there is no change, use 'o'. Use 'o' for the first row of the histogram.
  For the array described above, the output would begin like this:
  t0   oooo
  t1   ––
  t2   ++++++
  t3   +++++++
- Calculate the rate of growth for the plant, and print it to two decimal places below your histogram. Rate of growth = change in height / total time. Calculate the rate using a general formula with variables, not with specific values from the array.
- Be sure to follow Pandas Don't Eat Oreos conventions.