

## Question 1

1 point possible (graded)

Consider the following meteorological model:

- If the weather is bad at day  $n$ , then it remains bad at day  $n + 1$  with probability 0.5;
- If the weather is beautiful at day  $n$ , then it remains beautiful at day  $n + 1$  with probability 0.8 if it was beautiful at day  $n - 1$ ;
- If the weather is beautiful at day  $n$ , then it remains beautiful at day  $n + 1$  with probability 0.3 if it was bad at day  $n - 1$ .

Let us denote by  $X(n)$  the weather at day  $n$ .  $X(n)$  takes values in  $\{Be; Ba\}$  (for "Beautiful" or "Bad"). Is  $X(n)$  a Markov chain?

☐ Yes

☐ No

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You have used 0 of 2 attempts