Here is the transition matrix for a markov chain with states $A, B, C, D, E$. Which states are recurrent?

|  | $A$ | $B$ | $C$ | $D$ | $E$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $A$ | .4 | .2 | .4 | 0 | 0 |
| $B$ | .999 | 0 | 0 | .001 | 0 |
| $C$ | .7 | 0 | .3 | 0 | 0 |
| $D$ | 0 | 0 | 0 | .5 | .5 |
| $E$ | 0 | 0 | 0 | 1 | 0 |

