- 1. Suppose that  $y_t$  is autocorrelated but stationary, so it has  $E(y_t) = \mu$  at every t. Explain *intuitively* why  $y_t > \mu \Rightarrow E(y_{t+1} | y_t) < y_t$ .
- 2. Argue that  $E(y_{t+1} | y_t) < y_t \Rightarrow E(y_{t+1} y_t | y_t) = E(\Delta y_{t+1} | y_t) < 0$ .
- 3. Based on your answers to the previous questions, explain the intuition of the Dickey-Fuller.