EECS20n, Quiz 1 Solution, 9/26/01

The quiz is to provide feedback to you and to me about how well you've followed the material so far. It is primarily testing your familiarity with the notation. The quiz will take 15 minutes. Write your reponse on the sheet.

Please print your name here:

Last Name ———————————— First ———————————— Lab ————————————

Consider a state machine given by

$$(States, Inputs, Outputs, update, initialState)$$

where

$$States = \{x \in Reals \mid x = n \cdot \pi \wedge n \in \{1, 2, 3\}\},$$

$$Outputs = States \cap \{x \in Reals \mid n \cdot \pi \wedge n \in Naturals\},$$

$$Inputs = Naturals \cap \{1, 2, 3, 4, 5\} \cap \{-1, 0, 1, 2, 3\},$$

$$\forall\, s \in States,\ x \in Inputs, \quad update(s, x) = (x \cdot \pi, s),\ \text{and}$$

$$initialState = \pi.$$

Draw the state transition diagram.

Solution: