1) Construct a Deterministic Turing Machine for each of the following.

   (a) \{w \mid w \text{ is in } \{0,1\}^* \text{ and } w \text{ ends in 00}\}
   (b) \{w \mid w \text{ is in } \{0,1\}^* \text{ and } w \text{ contains at least 2 0’s}\}
   (c) \{w \mid w \text{ is in } \{0,1\}^* \text{ and } w \text{ contains at least one 0 and one 1}\}

2) Suppose the input to a turing machine consists of two n-bit binary numbers separated by a # character. Give a deterministic turing machine that will determine if the first binary number is larger than the second. Note that the turning machine should output 1 to the right of the second number if the answer is yes, and a 0 if the answer is no.