1. Give an example of
   (a) A language $A$ that is accepted by some PDA but is not regular. 
   \[ 0^n1^n \]
   (b) A language $B$ that has a regular grammar but is not accepted by any PDA.
   \[ \text{does not exist} \]

2. Consider following PDA.

   \[ \text{(a) Give two strings of length 4 accepted by the PDA.} \]
   \[ 0011, 0000 \]

   \[ \text{(b) Give two strings of length 4 NOT accepted by the PDA.} \]
   \[ \text{anything starting with a 1} \]

   \[ \text{(c) Describe in succinct-ish English the language of this PDA. Be precise.} \]
   \[ 0^x1^y \]
   \[ \text{where } x \geq y \text{ and } x \text{ is even.} \]