1. Consider the PDA with $Q = \{q_0, q_1, q_2\}$, $\Sigma = \{a, b\}$, $\Gamma = \{a, b, \varepsilon\}$, $F = \{q_2\}$ and $F(q_0, a, a) = \{q_0\}$, $F(q_0, b, a) = \{q_0\}$, $F(q_0, a, b) = \{q_0\}$, $F(q_0, b, b) = \{q_0\}$, $F(q_1, \lambda, a) = \{q_1\}$, $F(q_1, \lambda, b) = \{q_1\}$, $F(q_1, \lambda, \varepsilon) = \{q_2\}$ accepting the language $L = \{w w^R | w \in \{a, b\}^+\}$. (For an explanation on how this PDA operates see the textbook, p. 182).

Show that the PDA accepts the string $b b a b b b a b b a b b$. (List the instantaneous descriptions and corresponding transitions).

2. Construct an NPDA that accepts the language generated by the grammar:

   $S \rightarrow aB/c$
   $B \rightarrow bC$
   $C \rightarrow bS$ with start symbol $S$. 
