Quiz 2

0. Your NAME:

1. Carefully state the **pumping lemma** for regular languages.

2. Using the procedure given in class and in the text, convert the regular expression $0^* \cup 10$ into an NFA for the same language.

3. Give a CFG G the language of which is all (fully parenthesized) regular expressions over $\Sigma = \{a, b\}$.[1]

[1]Remember that a regular expression is just a string over the alphabet $\Sigma \cup \{\circ, *, \cup, \emptyset, \varepsilon, (,)\}$, so it makes sense to think of the language which is the set of all regular expressions over alphabet Σ.