

CSI 409 — Fall 2017: Homework #3

Due date: Oct 13

Answer all questions on your own. Turn in your answers at the **beginning** of class. Write your preferred e-mail address (e.g. zz6000@csc). If you are using more than one sheet of paper, make sure that you *staple* all the sheets together.

Remember that collaboration of any kind is not allowed.

1. Derive a regular expression for the *complement* of the language $(ab \cup abb)^*$. The alphabet is $\{a, b\}$.
2. Prove that the following language is not regular:

$$\{a^m b a^n \mid 2m > n \geq 0\}$$