

CS 154

Formal Languages and Computability

Spring 2016

Department of Computer Science
San Jose State University
Instructor: Ron Mak

Assignment #5

Assigned: Thursday, March 17

Due: Wednesday, March 23 at 11:59 pm

Individual assignment, 100 points max

Problem set C

Use the pumping lemma for context-free languages to prove that each of the following languages is not context-free

1. $L_1 = \{a^n b^{2^n} a^n : n \geq 0\}$
2. $L_2 = \{a^n : n \text{ is a perfect square}\}$
3. $L_3 = \{a^n : n \text{ is prime}\}$

What to submit to Canvas

Submit your answers as a Word document or a PDF into Canvas: **Assignment #5**