

Course: SE312 Theory of Computing (Section: B)
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Lab 08

1. Write a C program to prove that the following are not regular languages using pumping lemma:

- a. $\{0^n 1^n \mid n \geq 1\}$
- b. $\{0^n 1^{2n} \mid n \geq 1\}$

Your program should take the input as the following format:

- i. $0^n 1^n$
- ii. $0^n 1^{2n}$

Then you need to pick a string w in L and break w into three strings $w = xyz$ such that y is not empty and $|xy| \leq n$. Next, you have to generate strings xy^kz for all $k \geq 0$ by pumping using a function and verify whether the string is also in L using another function.