CS 302
QUIZ 7 (REMOTE)

20 April, 2020

Duration : 15 minutes

Do not forget to write your name on your paper !

QUESTION

(10 pts) Consider the two languages below.

(i) $L_1 = (\omega \in \{a,b,c,d\}^* \mid \omega = a^n b^n c^m d^m \; ; n,m \geq 0 \}$;

(ii) $L_2 = (\omega \in \{a,b,c,d\}^* \mid$ in $\omega :$ #*a*'s = #*b*'s AND #*c*'s = #*d*'s }

*For each case if the language is a CFL then construct a **CFG** to generate it ;*

*or using the **pumping lemma** prove that it is not a CFL.*