Tutorial-8 (04/11/2020)

1. Show that L={vv: v$\in${a,b}*} is not context-free language using pumping lemma.

2. Show that L={a^n!: n>=0} is not context-free language using pumping lemma.

3. Which of the expressions correctly is a requirement of the pumping lemma for the context free languages?
   a) uv^nwx^ny
   b) uv^nw^nx^ny
   c) uv^(2n)wx^(2n)y
   d) All of the mentioned

4. Let L be the language {ww | w $\in${0,1}*}. Show that this language is not a CFL using pumping lemma.

5. Show that the language {ww^Rw | w$\in${0,1}*} is not context-free using pumping lemma.

Questions to be solved latest by Saturday (07/11/2020)

1. Show that L = (a^n b^j : n<=j^2) is not context-free language using pumping lemma.

2. Show that L = (w : na(w) < nb(w) < nc(w)) is not context-free language using pumping lemma.

3. Let L be the language { $a^ib^jc^k$ | 0 $\leq$i $\leq$j $\leq$k }. Show that this language is not a CFL.

NOTE: *Upload your solutions only through the given link. Name your pdf file with the format* ***<rollno_name_tutorialno>****. Do not mail your solutions elsewhere.*

Link to upload the solutions:
https://docs.google.com/forms/d/e/1FAIpQLSeCvtM_D60DmY_5WrofJPA9yVeO_F_8owvTKEq-IVUwzWpRoQ/viewform?usp=sf_link