NAME: ANGLESS REX .I

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COURSE TITLE: Theory of Computing

ASSIGNMENT

1. Consider the following grammar G = (V,T, S, P), and identify languages generated by it
2. S→aS|bS|a
3. S→AS|BS|λ, A→a, B→b.
4. S→aAb|aBb|aSb, A →aA|a, B →bB|b

2. The production rule S→aSa|bSb|a|b|λ generates a palindrome Language; PAL={w∈ {a,b}^\* |w=w^R }; define at least ten (20) set of strings produced by this grammar (Note: show how you generate your strings using parse tree).

3. Construct the grammar for set of all strings (w∈{a,b}| |w|mod 2=1).

4. In algebraic form, summarize the language generated by the following grammar

i. S→aAb, A→aA|bA|λ

ii. S→aSb|ab

iii. S→aSc|aAc, A→aAb|ab

iv. S→AB, B→bB|b, A→aA|a