Q1
Consider the following statements
1- The boy eat the apple
2- The weather gets hot during summer
3- The big boy hits the ball
4- For i=1 to n
    If n>1 and n <> 9 then
    Print (" Accept")
Find: 1- T 2- N 3- P
Q2
A)
Let G=({0,1},{S,N},{P,S}) where P denoted as:
S → NN
N → NNN\1 N drifted 1\0
Find L(G)
B)
Find the R.E that defines the same language accepted by the following T.G using Kleen's theorem.

Q3
Write regular expression and draw for the following languages over the alphabet \( \Sigma = \{a,b\}
1- the language of all words that have at least one a and one b
2- the language of all words that contains exactly two a's
3- the language of all words in which a is tripled or b is tripled but not both(mean each word contains the sub string aaa or bbb but not both)
4- the language of all words of a's and b's except ^
5- the language of all words that have even number of a's or odd number of b's
Q4
Design a PDA that accepts the language: \( \{a^n X b^n, \text{ where } n=1,2,3,......... \} \)
Such as \{aXa, bXb,abXba,aaabXaa,........\}
Q5
Design a T.M convert all small letter to capital letter over alphabet \( \Sigma = \{a,b,c,d,......,z\} \)
Such as: aabcdAADDdef become AABCDAADDEF