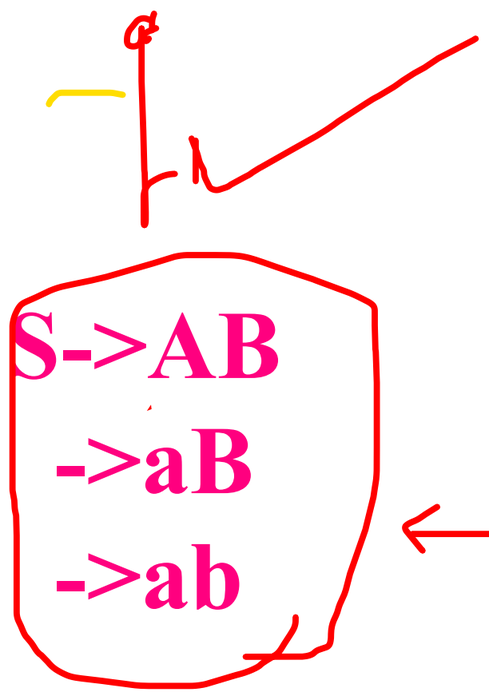
the sting derivable = ab



GRAMMAR & DERIVATION TREE
07/10/2020

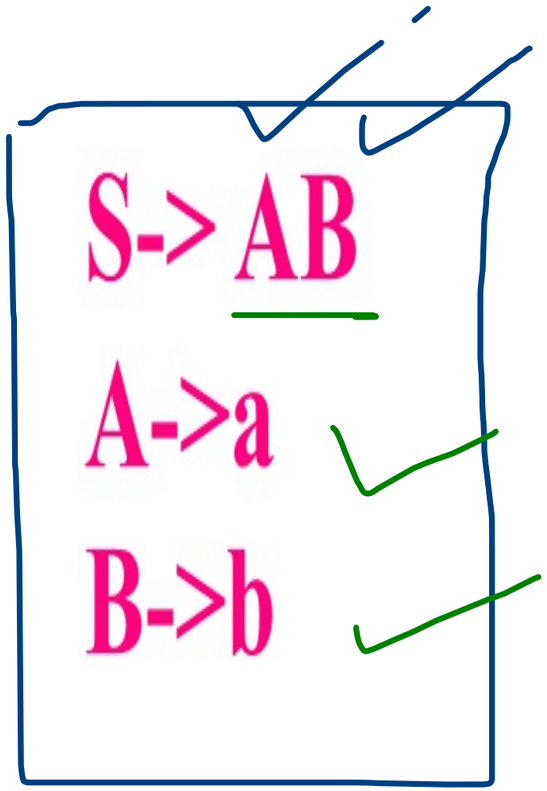
S-> AB
A->a
B->b

grammar is used to form sentence

In TOC grammar contains rules to derive strings

G Given

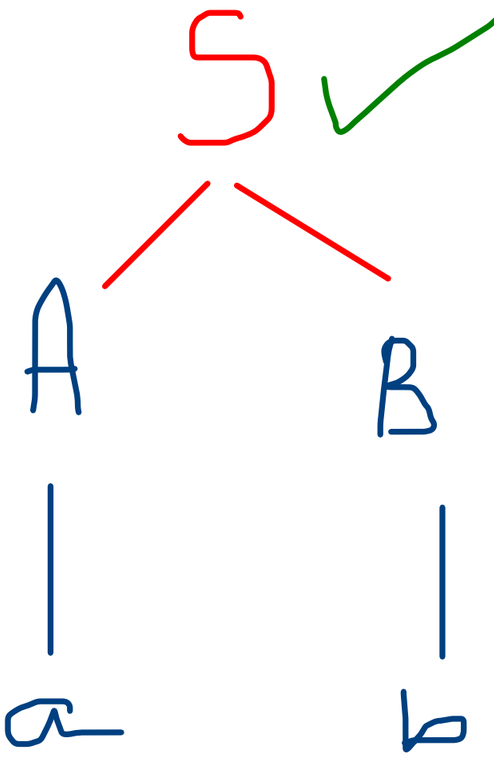
a b



Defination of Grammar

Capital Letters = {S, A, B}
Small Letters = {a, b}
Start Symbol = S (Only one)
No of production rule =3

i) S->AB
2) A->a
3) B->b



S=Root Node
A,B= Intermideiate Nodes
a,b= Terminal Nodes

A grammar is represented with 4 tuples

(Vn , Sigma, P, S)

Vn= Capital letters= Set of variables

Sigma= Small letters= Set of input symbols/ terminal symbols / non variables

P= production rule of the form alpha->Beta

Vn intersection sigma = phi

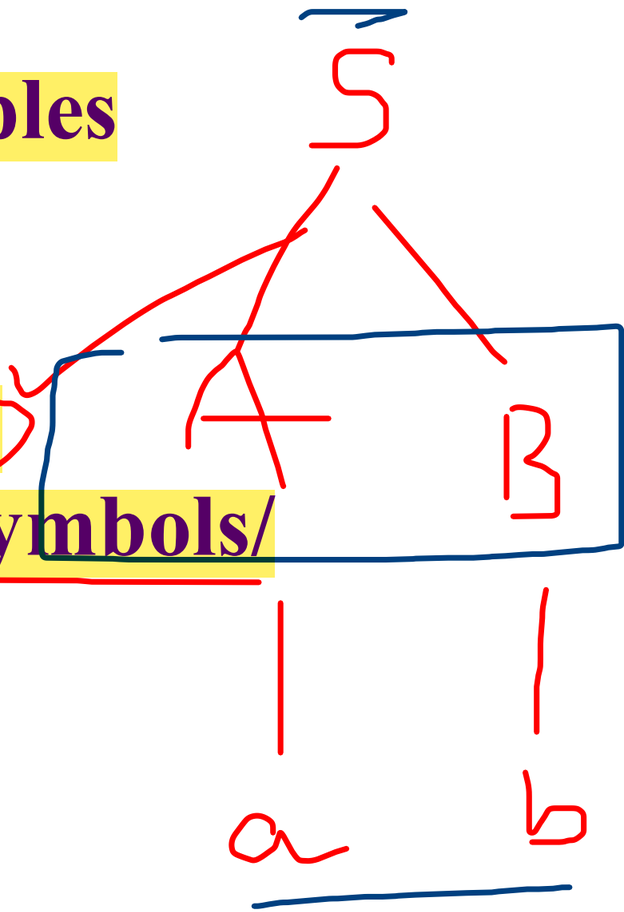
S= special variable called starting symbol

S->AB

A->a

B->b

$(V_n \cap \Sigma) = \phi$



S->aAS | a | SS
A->SbA | ba

Derive the string "aabaa"

S-> SS (S->SS)
-> aS (S->a)
->aaAS (S->aAS
->aabaS(S->ba)
->aabaa (S->a)

Derivation Tree