

RGPV 2020

What are leftmost and rightmost derivations? Explain with suitable example ?

Grammar:

$S \rightarrow aS / \epsilon$

For generating strings 'aaa'.

Left most derivation:

A leftmost derivation is obtained by applying production to the leftmost variable in each step.

$S \rightarrow aS$

$\rightarrow aaS$ (Using $S \rightarrow aS$)

$\rightarrow aaaS$ (Using $S \rightarrow aS$)

$\rightarrow aaa\epsilon$

$\rightarrow aaa$

Right most derivation:

A rightmost derivation is obtained by applying production to the rightmost variable in each step.

$S \rightarrow aS$

$\rightarrow aaS$ (Using $S \rightarrow aS$)

$\rightarrow aaaS$ (Using $S \rightarrow aS$)

$\rightarrow aaa\epsilon$

$\rightarrow aaa$

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