CD TUTorial

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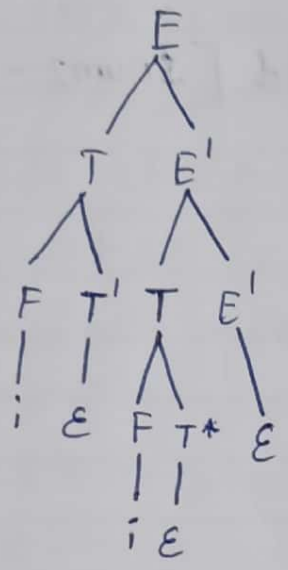
① i+i*i

$E \rightarrow TE'$
$E' \rightarrow TE' | \varepsilon$
$T \rightarrow FT'$
$T' \rightarrow FT' | \varepsilon$
$F \rightarrow (\varepsilon) | i$



LMD

$\varepsilon \rightarrow TE'$
$\rightarrow FT'\varepsilon'$
$\rightarrow id\ T'\varepsilon'$
$\rightarrow id\ E'$
$\rightarrow id + TE'$
$\rightarrow id + F + E'$
$\rightarrow id + id\ T'E'$
$\rightarrow i + i\ E'$
$\rightarrow i + i$

$E \rightarrow TE'$
$T \rightarrow FT'$
$F \rightarrow i$
$T' \rightarrow \epsilon$
$\varepsilon' \rightarrow Te'$
$T \rightarrow FT'$
$F \rightarrow i$
$T' \rightarrow \epsilon$
$\varepsilon' \rightarrow \varepsilon$

2) a) w (a, (a,a))

Right most derivations

$S \rightarrow (L)$

$S \rightarrow (L,S)$

$S \rightarrow (L,(L))$

$S \rightarrow (L,(L,S))$

$S \rightarrow (L,(L,a))$

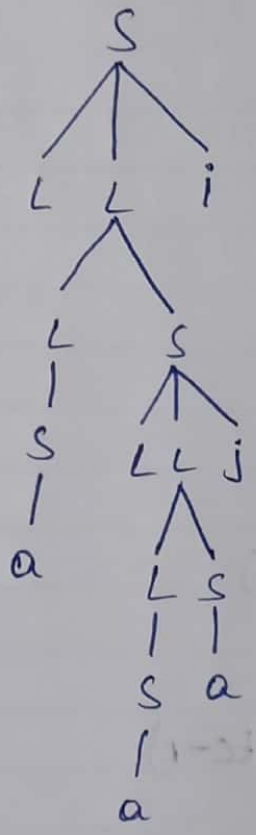
$S \rightarrow (L,(S,a))$

$S \rightarrow (L,(a,a))$

$S \rightarrow (S,(a,a))$

$S \rightarrow (a,(a,a))$

Parse Tree

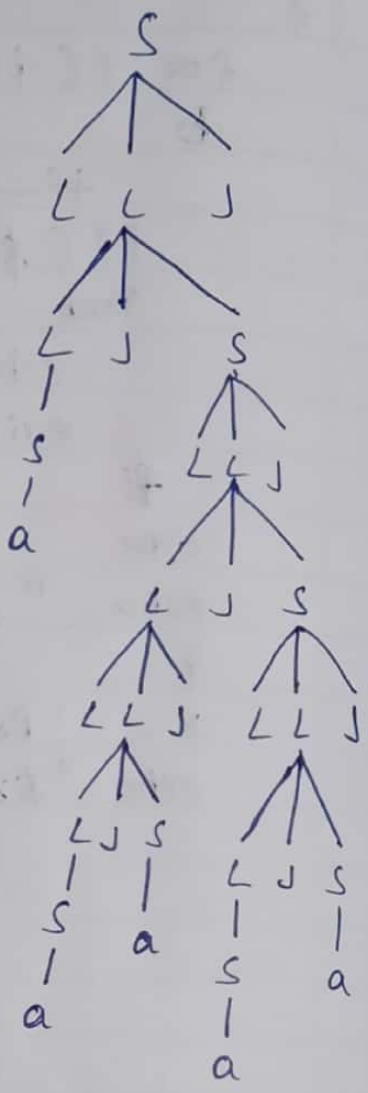


2) b) (a, ((a,a); (a,a)))

Right most derviations

S → (L)
S → (L, S)
S → (L, (L))
S → (L, (L, S))
S → (L, (L, (L, a)))
S → (L, L, (S, a))
S → (L, L, (a, a))
S → (L, (S, (a, a)))
S → (L, (L, S), (a, a))
S → (L, ((L, a), (a, a)))
S → (L, ((S, a), (a, a)))
S → (L, ((a, a), (a, a)))
S → (S, ((a, a), (a, a)))
S → (a, ((a, a), (a, a)))

Parse Tree :-



3)

$E \rightarrow num\ T$

$T \rightarrow *\ num\ T \mid \varepsilon$

```
E ( )
{
    if (input = 'num')
        input ++;
        T();
}
T()
{
  if(input == '*')
{   input ++;
    if ( input == 'num')
        input ++;
        T();
    else
        return
}
```