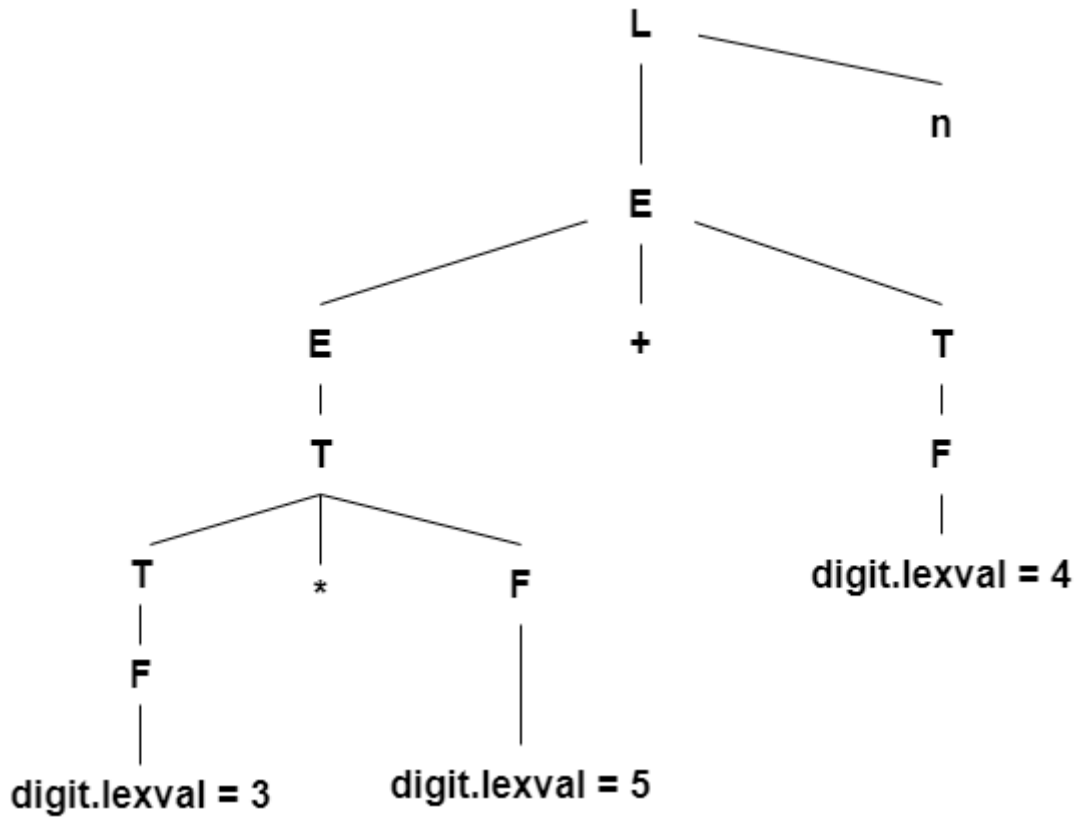
SDD & SDT

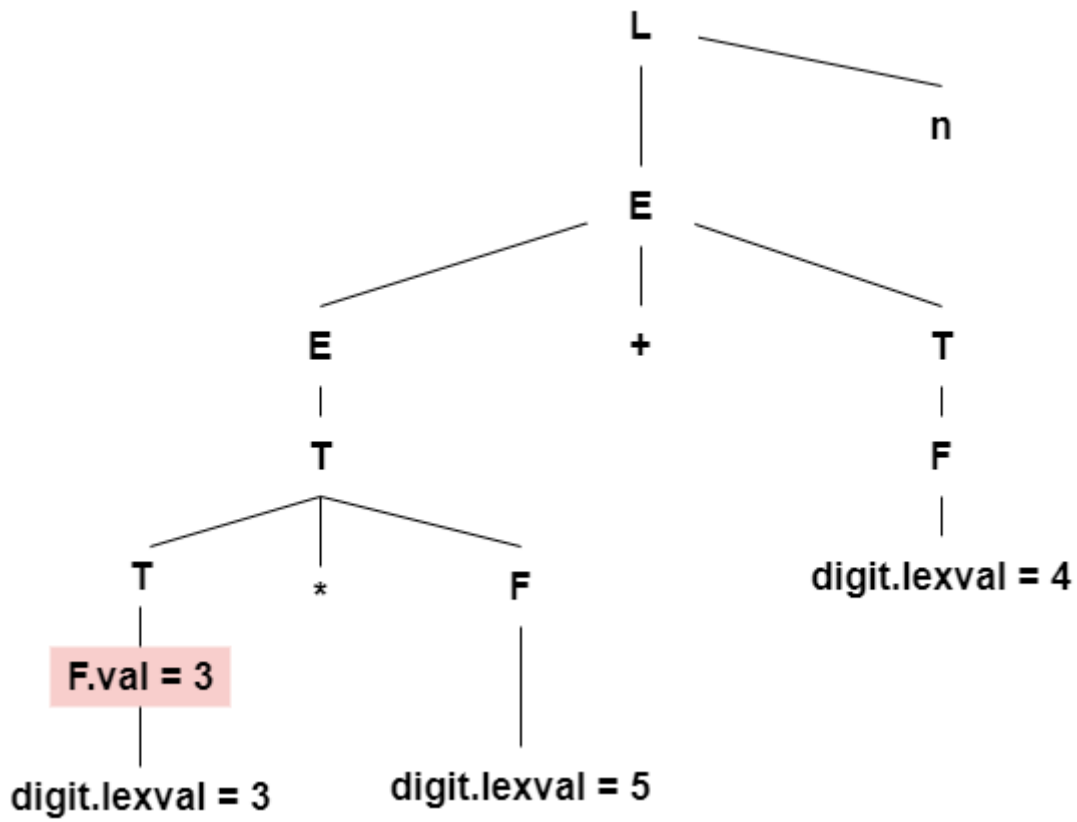
SDD for desk calculator/SDD for evaluation of expressions

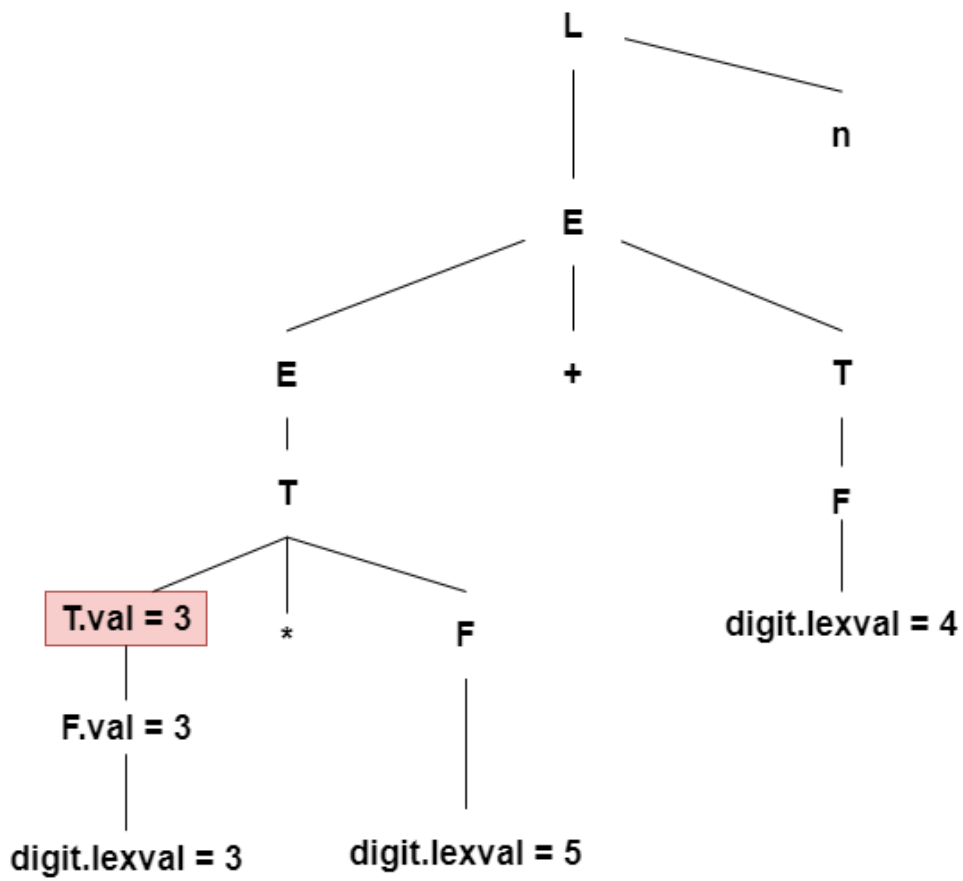
SDD to evaluate the expression 3*5+4n using the bottom up Approach

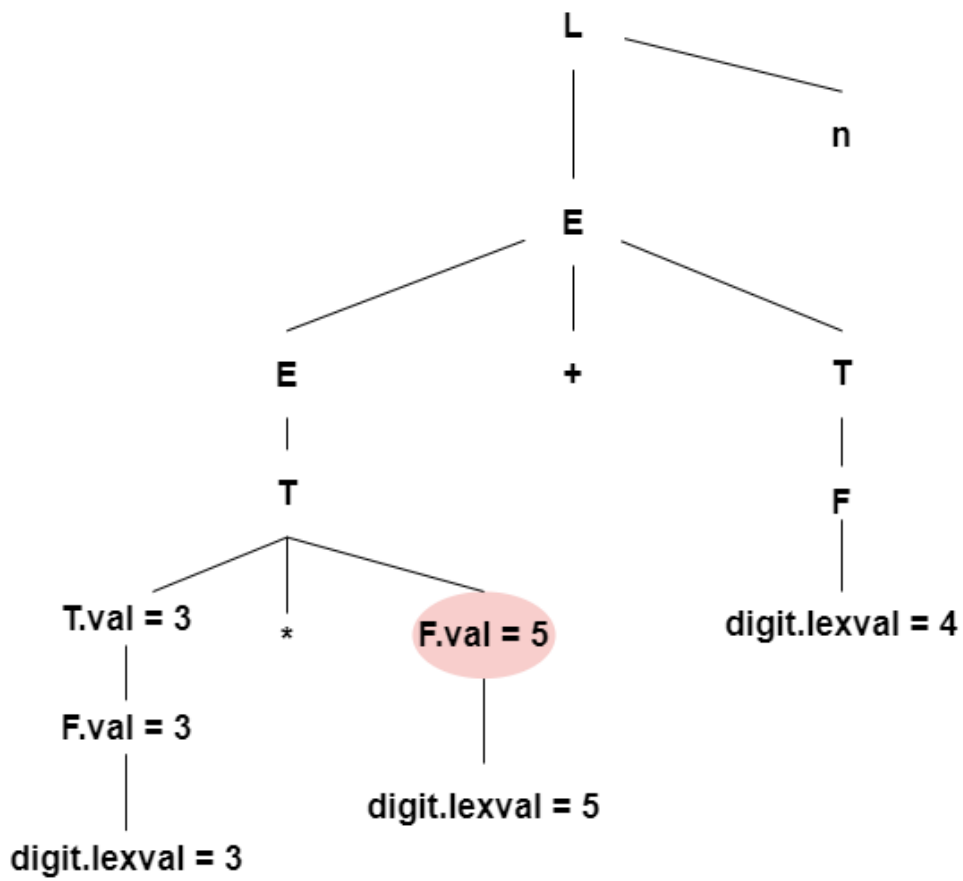
	PRODUCTION	SEMANTIC RULES
1)	$L \rightarrow E$ **n**	$L.val = E.val$
2)	$E \rightarrow E_1 + T$	$E.val = E_1.val + T.val$
3)	$E \rightarrow T$	$E.val = T.val$
4)	$T \rightarrow T_1 * F$	$T.val = T_1.val \times F.val$
5)	$T \rightarrow F$	$T.val = F.val$
6)	$F \rightarrow (E)$	$F.val = E.val$
7)	$F \rightarrow$ **digit**	$F.val =$ **digit**.lexval

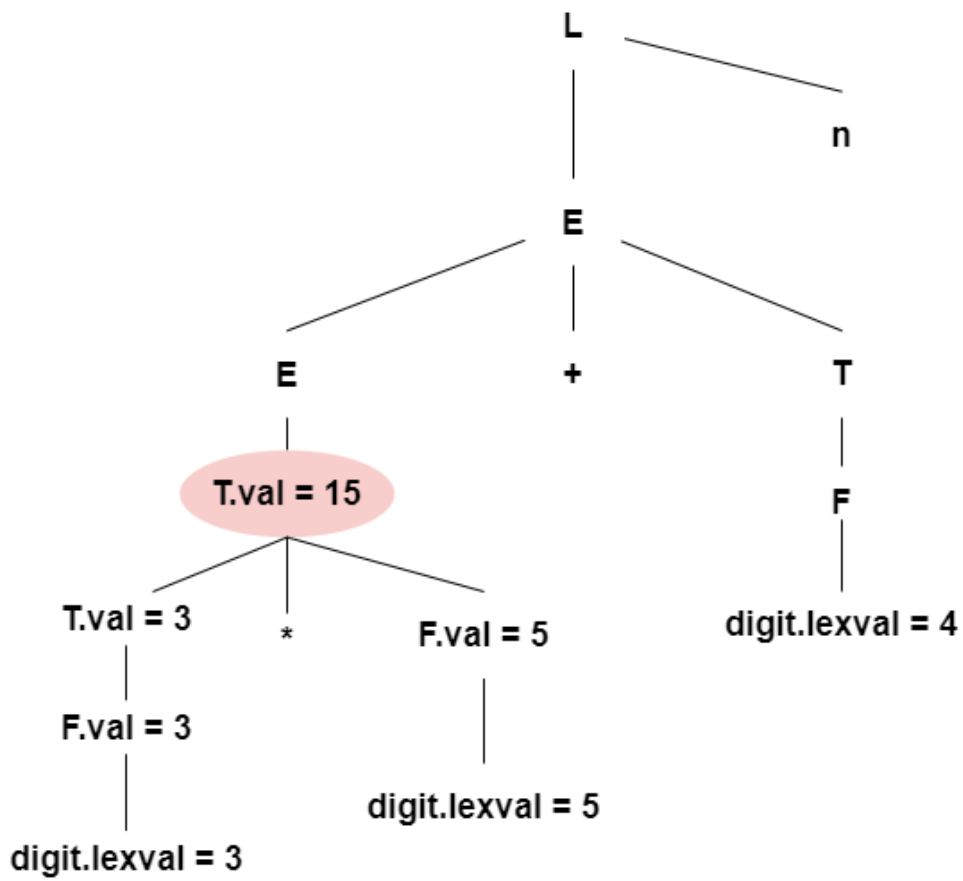
SSD for a desk calculator

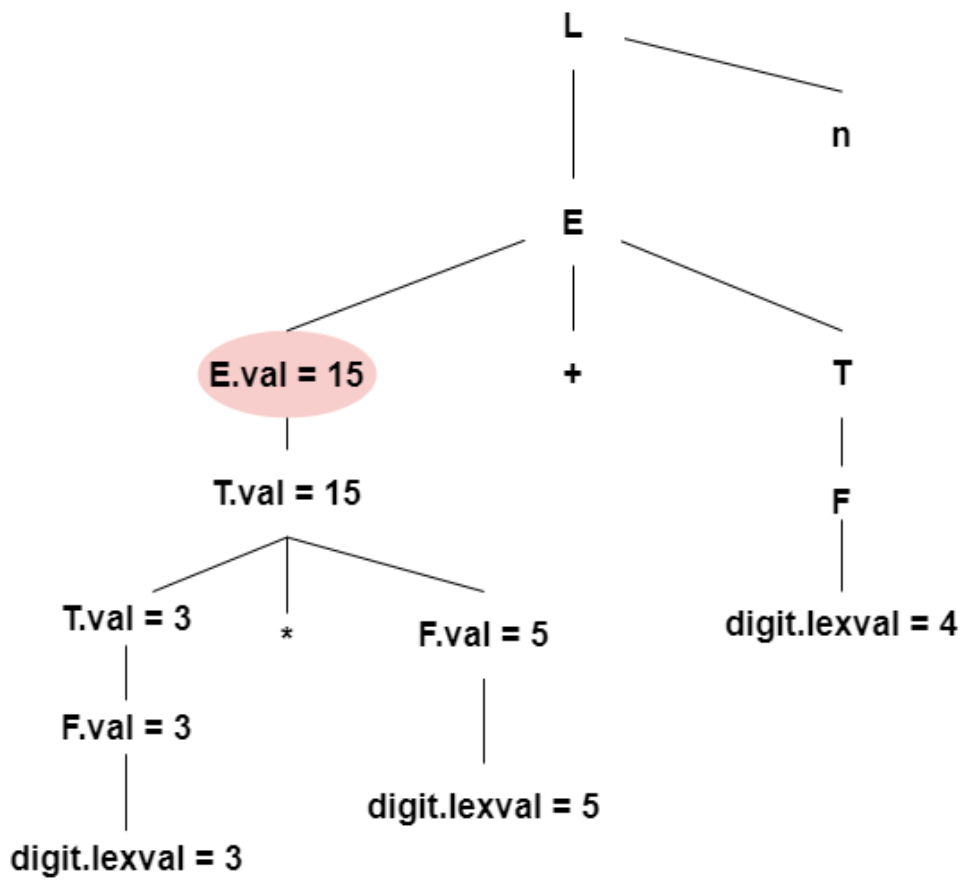

L
n
E
E
+
T
T
F
T
*
F
F
digit.lexval = 4
F
digit.lexval = 3
digit.lexval = 5

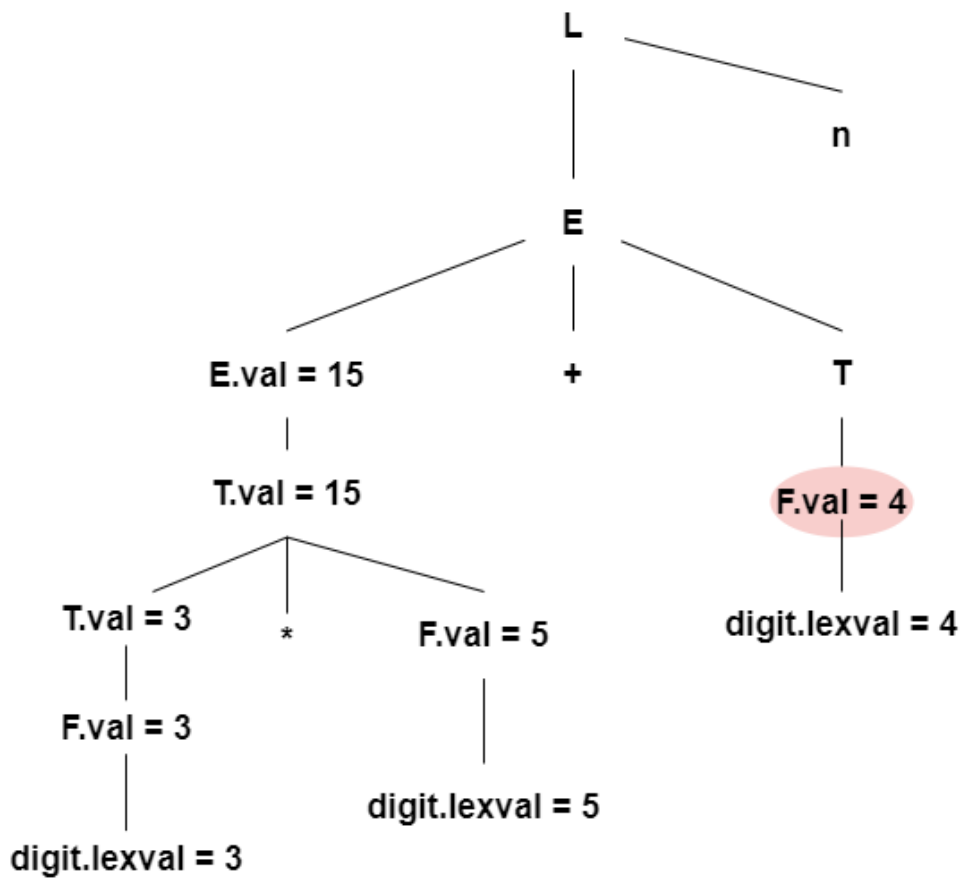

L
n
E
E
+
T
T
F
T
*
F
F.val = 3
digit.lexval = 4
digit.lexval = 3
digit.lexval = 5

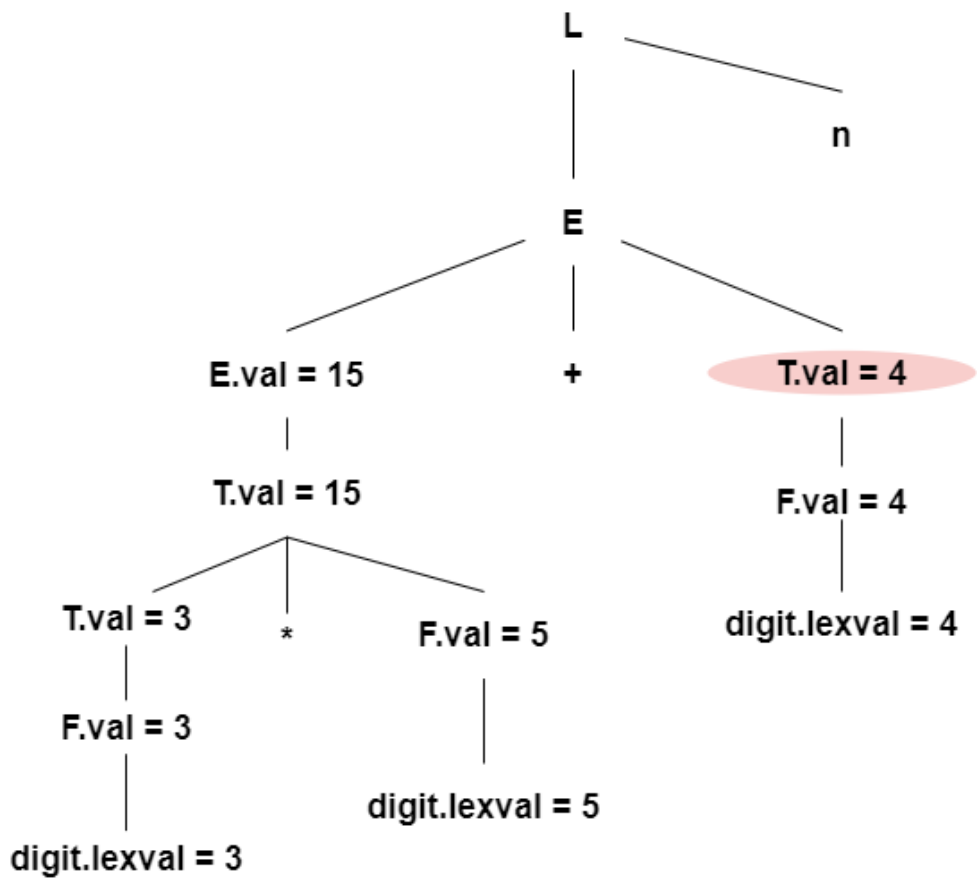

L
n
E
E
+
T
T
F
T.val = 3
*
F
digit.lexval = 4
F.val = 3
digit.lexval = 3
digit.lexval = 5

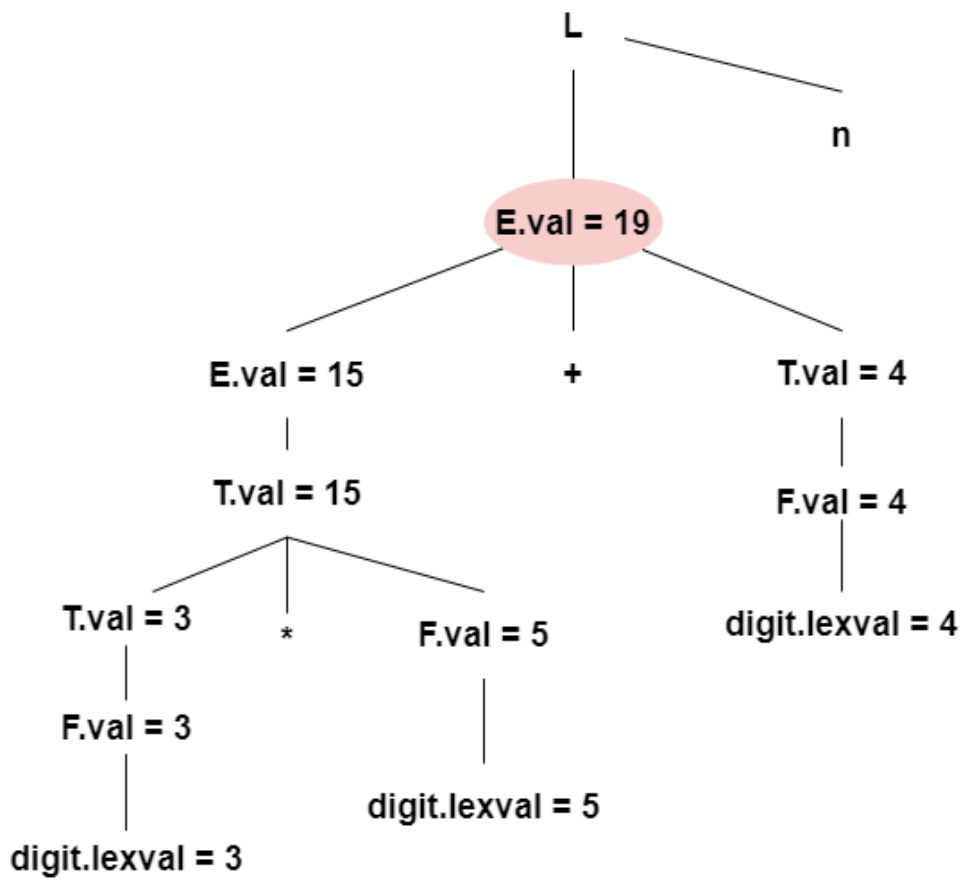

L
n
E
E
+
T
T
F
T.val = 3
*
F.val = 5
digit.lexval = 4
F.val = 3
digit.lexval = 5
digit.lexval = 3

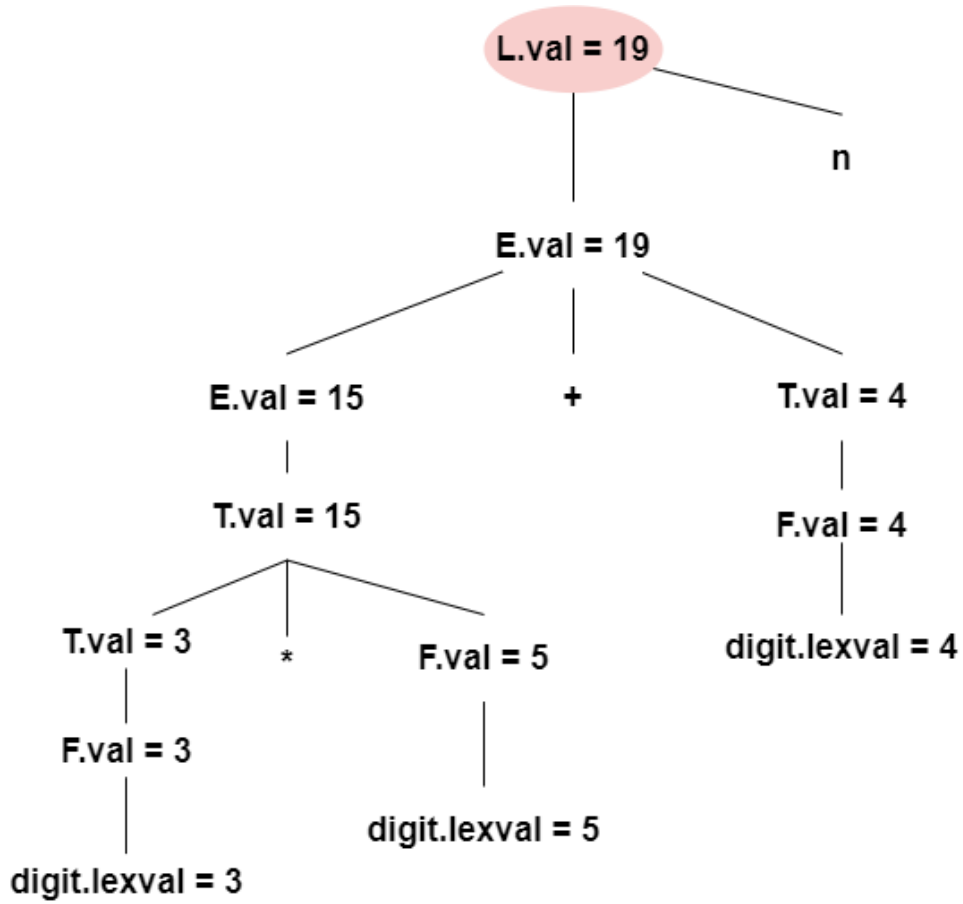

L
n
E
E
+
T
T.val = 15
F
T.val = 3
*
F.val = 5
digit.lexval = 4
F.val = 3
digit.lexval = 5
digit.lexval = 3


L
n
E
E.val = 15
+
T
T.val = 15
F
T.val = 3
*
F.val = 5
digit.lexval = 4
F.val = 3
digit.lexval = 5
digit.lexval = 3


L
n
E
E.val = 15
+
T
T.val = 15
F.val = 4
T.val = 3
*
F.val = 5
digit.lexval = 4
F.val = 3
digit.lexval = 5
digit.lexval = 3


L
n
E
E.val = 15
+
T.val = 4
T.val = 15
F.val = 4
T.val = 3
*
F.val = 5
digit.lexval = 4
F.val = 3
digit.lexval = 5
digit.lexval = 3


L
n
E.val = 19
E.val = 15
+
T.val = 4
T.val = 15
F.val = 4
T.val = 3
*
F.val = 5
digit.lexval = 4
F.val = 3
digit.lexval = 5
digit.lexval = 3


L.val = 19
n
E.val = 19
E.val = 15
+
T.val = 4
T.val = 15
F.val = 4
T.val = 3
*
F.val = 5
digit.lexval = 4
F.val = 3
digit.lexval = 5
digit.lexval = 3

Q:SDT to evaluate the expression 4 +5/6 using the bottom up Approach

S --> E	Print(E.val)
E --> E_1 + T	E.val = E_1.val + T.val
E --> T	E.val = T.val
T --> T_1 * F	T.val = T_1.val * F.val
T --> F	T.val = F.val
F --> digit	F.val = digit.lexval