Function Calls in Recursive Descent Example

OS	main	x = a + b * c	X
Function Called From	Function Stack	Input	Lookahead

start	P	x = a + b * c	X
main	start	x = a + b * c	X
OS	main	x = a + b * c	X
Function Called From	Function Stack	Input	Lookahead

P	S	x = a + b * c	X
start	P	x = a + b * c	X
main	start	x = a + b * c	X
OS	main	x = a + b * c	X
			T l l l
Called From	Function Stack	Input	Lookahead

S P start main OS	match(id) S P start main	x = a + b * c x = a + b * c	x x x x
Function Called From	Function Stack	Input	Lookahead

P	S	= a + b * c	=
start	P	= a + b * c	=
main	start	= a + b * c	=
OS	main	= a + b * c	=
	Function Stack	Input	Lookahead
Called			
From			

S	match(=)	= a + b * c	=
P	S	= a + b * c	=
start	P	= a + b * c	=
main	start	= a + b * c	=
OS	main	= a + b * c	=
Function Called From	Function Stack	Input	Lookahead

P	S	a + b * c	a
start	P	a + b * c	a
main	start	a + b * c	a
OS	main	a + b * c	a
	Function Stack	Input	Lookahead
Called			
From			

S	E	a + b * c	a
P	S	a + b * c	a
start	P	a + b * c	a
main	start	a + b * c	a
OS	main 	a + b * c	a
Function Called From	Function Stack	Input	Lookahead

Function	Function Stack	Input	Lookahead
		a 1 D C	
OS	main	a + b * c	a
main	start	a + b * c	a
start	P	a + b * c	a
P	S	a + b * c	a
S	E	a + b * c	a
E	T	a + b * c	а

T	F	a + b * c	a
E	T	a + b * c	a
S	E	a + b * c	a
P	S	a + b * c	a
start	P	a + b * c	a
main	start	a + b * c	а
OS	main	a + b * c	а
Function	Function Stack	Input	Lookahead

Called

From

F	match(id)	a + b * c	a
T	F	a + b * c	a
E	T	a + b * c	a
S	E	a + b * c	a
P	S	a + b * c	a
start	P	a + b * c	a
main	start	a + b * c	a
OS	main	a + b * c	a
Function Called	Function Stack	Input	Lookahead

T	F	+ b * c	+
E	T	+ b * c	+
S	E	+ b * c	+
P	S	+ b * c	+
start	P	+ b * c	+
main	start	+ b * c	+
OS	main	+ b * c	+
Function	Function Stack	Input	Lookahead

E	T	+ b * c	+
S	E	+ b * c	+
P	S	+ b * c	+
start	P	+ b * c	+
main	start	+ b * c	+
OS	main	+ b * c	+

T	T '	+ b * c	+
E	T	+ b * c	+
S	E	+ b * c	+
P	S	+ b * c	+
start	P	+ b * c	+
main	start	+ b * c	+
OS	main	+ b * c	+
Function	Function Stack	Input	Lookahead

T	null in T'	+ b * c	+
T	T '	+ b * c	+
E	T	+ b * c	+
S	E	+ b * c	+
P	S	+ b * c	+
start	P	+ b * c	+
main	start	+ b * c	+
OS	main	+ b * c	+
Function	Function Stack	Input	Lookahead

T	T '	+ b * c	+
E	T	+ b * c	+
S	E	+ b * c	+
P	S	+ b * c	+
start	P	+ b * c	+
main	start	+ b * c	+
OS	main	+ b * c	+
Function	Function Stack	Input	Lookahead

Called

From

E	T	+ b * c	+
S	E	+ b * c	+
P	S	+ b * c	+
start	P	+ b * c	+
main	start	+ b * c	+
OS	main	+ b * c	+

S P start main OS	E S P start main	+ b * c + b * c + b * c + b * c + b * c	+ + + +
Function Called From	Function Stack	Input	Lookahead

E	E '	+ b * c	+
S	E	+ b * c	+
P	S	+ b * c	+
start	P	+ b * c	+
main	start	+ b * c	+
OS	main	+ b * c	+
Function	Function Stack	Input	Lookahead

E '	match(+)	+ b * c	+
E	E '	+ b * c	+
S	E	+ b * c	+
P	S	+ b * c	+
start	P	+ b * c	+
main	start	+ b * c	+
OS	main	+ b * c	+
Function Called	Function Stack	Input	Lookahead

E	E '	b * c	b
S	E	b * c	b
P	S	b * c	b
start	P	b * c	b
main	start	b * c	b
OS	main	b * c	b

E	T	b * c	b
E	E '	b * c	b
S	E	b * c	b
P	S	b * c	b
start	P	b * c	b
main	start	b * c	b
OS	main	b * c	b

T	F	b * c	b
E	T	b * c	b
E	E '	b * c	b
S	E	b * c	b
P	S	b * c	b
start	P	b * c	b
main	start	b * c	b
OS	main	b * c	b

F	match(id)	b * c	b
T	F	b * c	b
E	T	b * c	b
E	E '	b * c	b
S	E	b * c	b
P	S	b * c	b
start	P	b * c	b
main	start	b * c	b
OS	main	b * c	b
Function	Function Stack	Input	Lookahead

T	F	* C	*
E	T	* C	*
E	E '	* C	*
S	E	* C	*
P	S	* C	*
start	P	* C	*
main	start	* C	*
OS	main	* C	*
Function	Function Stack	Input	Lookahead

E	T	*	C	*
E	E '	*	С	*
S	E	*	С	*
P	S	*	С	*
start	P	*	С	*
main	start	*	С	*
OS	main	*	С	*
Function	Function Stack	Input		Lookahead

T	T '	* C	*
E	T	* C	*
E	E '	* C	*
S	E	* C	*
P	S	* C	*
start	P	* C	*
main	start	* C	*
OS	main	* C	*
Function	Function Stack	Input	Lookahead

T'	match(*)	*	C	*
T	T '	*	С	*
E	T	*	С	*
E	E '	*	C	*
S	E	*	C	*
P	S	*	С	*
start	P	*	C	*
main	start	*	C	*
OS	main	*	С	*

From

T	T'	C	C
E	T	C	C
E	E '	C	C
S	Ε	C	C
P	S	C	C
start	P	C	C
main	start	C	C
OS	main	C	C

T'	F	C	С
T	T '	C	C
E	T	C	C
E	E '	C	C
S	E	C	С
P	S	C	C
start	P	С	C
main	start	C	C
OS	main	C	С
Function	Function Stack	Input	Lookahead

F	match(id)	C	C	
T'	F	C	C	
T	T '	C	С	
E	T	C	С	
E	E '	C	C	
S	E	C	C	
P	S	С	C	
start	P	C	C	
main	start	C	C	
OS	main	С	С	
				_

T'	F
T	T '
E	T
E	E '
S	E
P	S
start	Р
main	start
OS	main

T	T '		
E	T		
E	E '		
S	E		
P	S		
start	P		
main	start		
OS	main		
Function Called	Function Stack	Input	Lookahead

Т	T'
E	T
E	E '
S	E
P	S
start	Р
main	start
OS	main

OS main
----Function Function Stack Input Lookahead

E	1
E	E '
S	E
P	S
start	P
main	start
OS	main

E E'
S E
P S
start P
main start
OS main

OS main

Input Lookahead

Function Function Stack Called

From

S E
P S
start P
main start
OS main

Function Function Stack Input Lookahead

P S start P main start OS main

Function Function Stack Input Lookahead

start P
main start
OS main

Called From

Function Function Stack Input Lookahead main start
OS main
