scope name	scope type	
prog	global	
variable name	variable type	variable value
partition	function_definition	
quicksort	function_definition	
unsorted	array	[5,6,3,1,8,4]
a	dynamic_assignment	quicksort(unsorted,1,2)

scope name	scope type	
partition	function	
variable name	variable type	variable value
arr	argument	
first	argument	
last	argument	
pivot	dynamic_assignment	arr[last]
p_index	dynamic_assignment	first
printer	function_definition	
i	dynamic_assignment	first
c	dynamic_assignment	printer()
temp	dynamic_assignment	arr[p_index]

scope name	scope type	
quicksort	function	
variable name	variable type	variable value
arr	argument	
first	argument	
last	argument	

scope name	scope type	
printer	function	
variable name	variable type	variable value
a	string	'hello'
b	string	'world'

scope name	scope type	
while_statement	block	
variable name	variable type	variable value
i	int	1

scope name	scope type	
if_statement	block	
variable name	variable type	variable value
p_index	dynamic_assignment	partition(arr,first,last)

scope name	scope type	
if_statement	block	
variable name	variable type	variable value
temp	dynamic_assignment	arr[i]
p_index	int	1