

add Account

① $def(1) = \{username, accountName, url\}$

try $def(2) = \{conn\}$ $use(2) = \{url\}$

$use(2,3) = \{conn\}$

$use(2,4) = \{conn\}$

$def(3) = \{e\}$

$use(3) = \{e\}$

$def(4) = \{pstnt, rs, owner, exists\}$

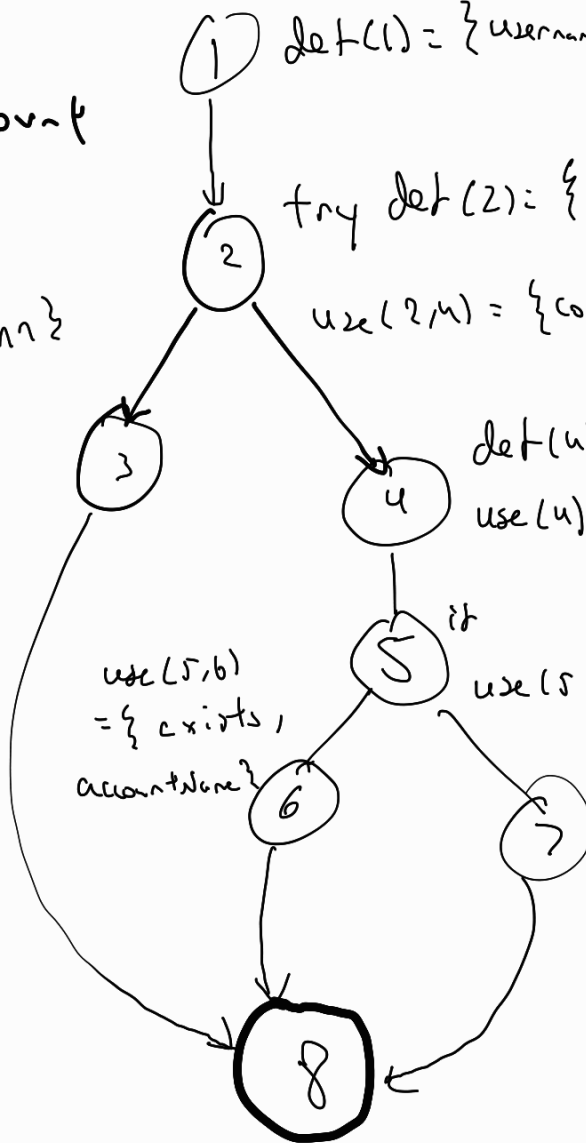
$use(4) = \{conn, pstnt, username, accountName\}$

$use(5,6) = \{exists, accountName\}$

it $use(5,7) = \{exists, accountName\}$

$def(7) = \{accountBeingMade, insnt\}$

$use(7) = \{accountName, owner, accountBeingMade, insnt, conn\}$



N	def	use
1	{username, accountName, url}	
2	{conn}	{url}
3	{e}	{e}
4	{pstnt, rs, owner, exists}	{conn, pstnt, username, accountName, rs}
5		
6		
7	{accountBeingMade, insnt}	{accountName, owner, conn, accountBeingMade, insnt}
8		

Edge	Use
(1,2)	
(2,3)	{conn}
(2,4)	{conn}
(3,8)	
(4,5)	
(5,6)	{exists, accountName}
(5,7)	{exists, accountName}
(6,8)	
(7,8)	

Variable	DU Pairs
conn	(2,(2,3)), (2,(2,4)), (2,4), (2,7)
url	(1,2)
username	(1,4)
accountName	(1,4), (1,7), (1,(5,6)), (1,(5,7))
e	(3,3) x
patnt	(4,4) x
rs	(4,4) x
owner	(4,7)
exists	(4,(5,6)), (4,(5,7))
accountBeingMade	(7,7) x
insert	(7,7) x

Variable	Du Pairs
conn	$(2, (2, 3)), (2, (2, 4)), (2, 4), (2, 7)$
url	$(1, 2)$
username	$(1, 4)$
accountName	$(1, 4), (1, 7), (1, (5, 6)), (1, (5, 7))$
e	
patnt	
rs	
owner	$(4, 7)$
exists	$(4, (5, 6)), (4, (5, 7))$
accountBeingMade	
insnt	

Variable	Du Pair	Du Path
conn	$(2, (2, 3))$ $(2, (2, 4))$ $(2, 4)$ $(2, 7)$	$[2, 3]$ $[2, 4]$ $[2, 4] \times$ $[2, 4, 5, 7]$
url	$(1, 2)$	$[1, 2]$
username	$(1, 4)$	$[1, 2, 4]$
accountName	$(1, 4)$ $(1, 7)$ $(1, (5, 6))$ $(1, (5, 7))$	$[1, 2, 4] \times$ $[1, 2, 4, 5, 7]$ $[1, 2, 4, 5, 6]$ $[1, 2, 4, 5, 7] \times$
owner	$(4, 7)$	$[4, 5, 7]$
exists	$(4, (5, 6))$ $(4, (5, 7))$	$[4, 5, 6]$ $[4, 5, 7] \times$

Unique

- $[2, 3]$
- $[2, 4]$
- $[2, 4, 5, 7]$
- $[1, 2]$
- $[1, 2, 4]$
- $[1, 2, 4, 5, 7]$
- $[1, 2, 4, 5, 6]$
- $[4, 5, 7]$
- $[4, 5, 6]$

Coverage Type: All-DU-Path

Coverage

[2,3] ✓ Test 1, input = valid login, valid account type, account type doesn't exist

[2,4] ✓

[2,4,5,7] ✓ inputs

username: "testLogin"

result: Successful addition of account

[1,2] ✓

accountType: "checking"

[1,2,4] ✓

New Paths Covered

[1,2,4,5,7] ✓

[2,4], [2,4,5,7], [1,2], [1,2,4], [1,2,4,5,7]

[1,2,4,5,6] ✓

[4,5,7]

[4,5,7] ✓

[4,5,6] ✓

Test 2, input = valid login, invalid account type,

inputs

username: "testLogin"

result: Fail to add account

accountType: "checking"

New Paths Covered

[4,5,6], [1,2,4,5,6]

Test 3: inputs, valid login, valid account type

• Faulty SQL, throw exception

inputs: "testLogin", "checking"

result: Catch SQL exception, return false

New Paths Covered

[2,3]