田野

2017329621125

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(a)

图片包含 台球

描述已自动生成

(b)

TR = {

[1,2,3],

[1,2,4],

[2,3,2],

[2,4,5],

[2,4,6],

[3,2,3],

[3,2,4],

[4,5,6],

[4,6,1],

[5,6,1],

[6,1,2],

[6,1,7]

}

(c)

The edge-pair coverage is that TR contains each reachable path of length up to 2, inclusive, in G. However in the TR given, not all the reachable path are contained, so it doesn’t satisfy edge-pair coverage.

Missing: [3,2,3],[6,1,2]

(d)

The terminology p tour the simple path q directly means path q is a subpath of p. However this condition doesn’t satisfy in the situation. So the test path doesn’t tour the simple path directly.

The terminology p tour q with sidetrip means every edge in q is also in p in the same order. According the definition, the test path tour the path with a sidetrip. The sidetrip leaves the subpath at one node and then returns to the subpath at the same node. So the sidetrip is [2,4,6,1,2]

(e)

Node coverage:

{1,2,3,4,5,6,7}

Edge coverage

{(1, 2), (1, 7), (2, 3), (2, 4), (3, 2), (4, 5), (4, 6), (5, 6), (6, 1)}

To find prime path coverage, we should find all the simple path.

simple paths of length 0 :

[1], [2], [3], [4], [5], [6], [7]!

simple paths of length 1:

[1,2], [1,7]!, [2,3], [2,4], [3,2], [4,5], [4,6], [5,6], [6,1]

simple paths of length 2:

[1,2,3], [1,2,4], [2,3,4], [2,3,2]\*, [3,2,3]\*, [3,2,4], [4,5,6], [4,6,1], [5,6,1], [6,1,7]!

simple paths of length 3:

[1,2,4,5], [1,2,4,6], [2,4,5,6], [2,4,6,1], [3,2,4,5], [3,2,4,6], [4,5,6,1], [4,6,1,7]!, [5,6,1,7]!

simple path of length 4:

[1,2,4,5,6], [1,2,4,6,1]\*, [2,4,5,6,1], [2,4,6,1,7], [2,4,6,1,2]\*, [3,2,4,5,6], [3,2,4,6,1], [4,5,6,1,7]!, [4,6,1,2,3], [4,6,1,2,4]\*, [6,1,2,4,6]\*,

simple path of length 5:

[1,2,4,5,6,1]\*, [2,4,5,6,1,2]\*, [2,4,5,6,1,7]! , [3,2,4,6,1,7], [4,5,6,1,2,3], [4,5,6,1,2,4]\*, [5,6,1,2,4,5]\*, [6,1,2,4,5,6]\*,

simple path of length 6

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

so the prime path coverage is:

{ [2,3,2], [3,2,3], [1,2,4,6,1], [2,4,6,1,2], [4,6,1,2,4], [6,1,2,4,6], [1,2,4,5,6,1], [4,6,1,2,4], [6,1,2,4,6], [1,2,4,5,6,1], [2,4,5,6,1,2], [4,5,6,1,2,4], [5,6,1,2,4,5], [6,1,2,4,5,6], [3,2,4,5,6,1,7]}

(f)

According to the paths in the given set, it doesn’t satisfy the condition. But we can find a test set by ourselves which satisfy the condition.

T = {[1,2,3,2,4,5,6,1,7]}

does not contain edge pair [4,6]

(g)

T = {[1,2,4,5,6,1,7], [1,2,3,2,4,6,1,7]}