Input space pertition:

|  |  |  |  |
| --- | --- | --- | --- |
| characteristic | >0 | =0 | <0 |
| Side1 | A1 | A2 | A3 |
| Side2 | B1 | B2 | B3 |
| Side3 | C1 | C2 | C3 |

Each choice coverage:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case | Side1 | Side2 | Side3 |
| tc1 | A1 | B1 | C1 |
| tc2 | A2 | B2 | C2 |
| tc3 | A3 | B3 | C3 |

Pair-wise coverage

|  |  |  |  |
| --- | --- | --- | --- |
| Test case | Side1 | Side2 | Side3 |
| Tc1 | A1 | B1 | C1 |
| Tc2 | A1 | B2 | C2 |
| Tc3 | A1 | B3 | C3 |
| Tc4 | A2 | B1 | C2 |
| Tc5 | A2 | B2 | C3 |
| Tc6 | A2 | B3 | C1 |
| Tc7 | A3 | B1 | C3 |
| Tc8 | A3 | B2 | C1 |
| Tc9 | A3 | B3 | C2 |

Graph coverage(按triOut的值来划分的状态)

null

0

6

4 3 2 1

Node coverage

|  |  |  |  |
| --- | --- | --- | --- |
| Path | Side1 | Side2 | Side3 |
| [null,4] | -1 | -1 | -1 |
| [null,0,1,3,6,3] | 2 | 2 | 2 |
| [null,0,2} | 2 | 1 | 2 |

Edge coverage

|  |  |  |  |
| --- | --- | --- | --- |
| Path | Side1 | Side2 | Side3 |
| [null,4] | -1 | -1 | -1 |
| [null,0,1,2] | 2 | 2 | 3 |
| [null,0,1,3,6,3] | 2 | 2 | 2 |
| [null,0,1,4] | 2 | 2 | 5 |
| [null,0,2,4] | 2 | 5 | 2 |
| [null,0,3,2] | 1 | 2 | 2 |
| [null,0,3,4] | 5 | 2 | 2 |
| [null,0,4] | 1 | 2 | 5 |

Prime path coverage

|  |  |  |  |
| --- | --- | --- | --- |
| Prime path | Side1 | Side2 | Side3 |
| [null,4] | -1 | -1 | -1 |
| [null,0,1,4] | 2 | 2 | 5 |
| [null,0,1,3,6] | 2 | 2 | 2 |
| [null,0,2,4] | 2 | 5 | 2 |
| [null,0,3,4] | 5 | 2 | 2 |
| [null,0,4] | 1 | 2 | 5 |
| [3,6,3] | 2 | 2 | 2 |

以下Prime path在实际程序中无法覆盖：

[null,0,1,2,4]

[null,0,1,3,2,4]

[null,0,1,3,4]

[null,0,3,2,4]

[null,0,3,6]

All-use coverage

|  |  |  |  |
| --- | --- | --- | --- |
| Du-path | Side1 | Side2 | Side3 |
| [0,1] | 2 | 2 | 3 |
| [0,2] | 2 | 5 | 2 |
| [0,3] | 1 | 2 | 2 |
| [0,4] | 1 | 2 | 5 |
| [3,6] | 2 | 2 | 2 |

Logic coverage

对于逻辑表达式：triOut == 1 && Side1+Side2 > Side3

Predicate coverage

Test case 1:

Side1 = 2 , side2 = 2 , side3 = 1

则表达式为真

Test case 2:

Side1 = 2 , side2 = 2 , side3 = 5

则表达式为假

Clause coverage

Test case 1:

Side1 = 2 , side2 = 2 , side3 = 1

Clause1 = true, clause2 = true

Test case 2:

Side1 = 2 , side2 = 2 , side3 = 5

Clause1 = true, clause2 = false

Test case 3:

Side1 = 1 , side2 = 2 , side3 = 1

Clause1 = false, clause2 = true

Test case 4:

Side1 = 1 , side2 = 2 , side3 = 5

Clause1 = false, clause2 = false

Correlated active clause coverage

选取major clause为：triOut == 1

Test case 1:

Side1 = 2 , side2 = 2 , side3 = 1

Major clause = true, minor clause = true, predicate = true

Test case 2:

Side1 = 1 , side2 = 2 , side3 = 5

Major clause = false, minor clause = false, predicate = false

Mutant testing

TritypMutantOne

Test case

Side1 = 2 , side2 = 2 , side3 = 5

原输出：4，变异输出：2

TritypMutantTwo

Test case

Side1 = 2 , side2 = 2 , side3 = 4

原输出：4，变异输出：2