|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Top 2 Affected Pipe Id/Cluster | 6  (%) | 49  (%) | 54  (%) | 63  (%) | 86  (%) | 108  (%) | 109  (%) | 115  (%) | **94**  **(%)** | **103**  **(%)** |
| [7, 6, 8, 9, 10] | 100 |  |  |  |  |  | 100 |  | **100** |  |
| [12, 11, 14, 16, 17, 18, 15, 19, 20, 39, 40, 51] | 75 |  |  | 25 |  |  | 100 |  | **100** |  |
| [2, 3, 4, 1, 5, 22, 21, 23, 24, 25, 89, 26, 27, 85, 28, 34, 32, 33, 35, 36, 37, 38] | 45.45 | 13.63 | 4.54 |  |  | 36.36 | 100 |  | **100** |  |
| [30, 29, 31, 42, 41, 111, 44, 43, 45, 46, 47, 48, 49, 50, 60, 59] |  | 25 |  | 75 |  | 56.25 | 100 |  | **100** |  |
| [55, 54, 56, 57, 58, 52, 65, 69, 67, 66, 68, 70, 112, 74, 73, 71, 72, 76] |  |  |  |  | 66.67 | 61.114 | 27.78 | 44.44 | **100** |  |
| [63, 106, 109, 75, 53, 62] | 100 |  |  | 50 |  |  |  | 50 |  | **100** |
| [64, 94, 110, 78, 79, 77, 107, 108, 61, 114] | 60 |  |  | 40 |  | 30 | 30 | 20 | **30** | **60** |
| [80, 13, 81, 83, 84, 82, 86, 87, 88, 90, 91, 98, 100, 113, 104, 105, 103, 92, 93, 95, 97, 96, 99, 101, 102] |  |  |  |  |  | 100 | 100 |  | **100** |  |

|  |  |  |
| --- | --- | --- |
|  | 94 | 103 |
| [2, 3, 4, 1, 5, 7, 6, 8, 9, 10, 11, 12, 14, 16, 17, 18, 15, 19, 20, 21, 22, 23, 24, 25, 89, 26, 27, 85, 28, 34, 30, 29, 31, 32, 33, 35, 36, 37, 38, 39, 40, 42, 41, 111, 43, 44, 45, 46, 47, 48, 49, 50, 51, 55, 54, 56, 57, 58, 60, 59, 52, 65, 69, 67, 66, 68, 70, 112, 74, 73, 71, 72, 76] | 100 |  |
| [80, 13, 53, 61, 63, 106, 109, 75, 64, 94, 110, 81, 79, 78, 77, 83, 84, 82, 86, 87, 88, 90, 91, 98, 100, 113, 104, 105, 103, 92, 93, 95, 97, 96, 99, 101, 102, 107, 108, 62, 114] | 68.29 | 29.26 |

{3: [2, 3, 4, 1, 5], 6: [7, 6, 8], 10: [9, 10], 11: [12, 11, 14, 19, 20, 39], 13: [80, 13, 81, 113], 17: [16, 17], 18: [15, 18], 21: [22, 21], 23: [24, 23, 25, 89], 85: [27, 85, 28, 34, 26], 29: [30, 29, 60, 59], 33: [32, 33, 35, 36, 37, 38], 41: [42, 41, 111, 44, 43], 45: [31, 45], 47: [46, 47, 48], 50: [49, 50], 40: [51, 40], 54: [55, 54, 56], 57: [58, 57], 106: [63, 106, 109, 62], 64: [110, 64, 78, 79, 77, 107, 108, 114], 65: [52, 65, 70], 67: [68, 67, 69, 74, 76], 112: [66, 112, 71], 72: [73, 72], 84: [83, 84, 88], 86: [82, 86, 87], 90: [91, 90], 98: [100, 98, 97, 95, 96], 104: [105, 104, 103], 93: [92, 93], 99: [101, 99, 102], 53: [75, 53], 61: [94, 61]}

[(110, 0.4707648546144122), (46, 0.46349557522123896), (59, 0.41371681415929207), (32, 0.31099873577749687), (76, 0.2782869785082175), (43, 0.16387484197218713), (26, 0.1426991150442478), (80, 0.13432364096080912), (4, 0.1227085967130215), (104, 0.10556257901390646), (6, 0.10176991150442478), (109, 0.10113780025284451), (100, 0.08817951959544881), (56, 0.07285082174462706), (39, 0.07190265486725664), (87, 0.06321112515802782), (102, 0.06242098609355247), (24, 0.04187737041719343), (71, 0.030025284450063215), (84, 0.01675094816687737), (52, 0.012168141592920356)]

Leak 3

4 100.0

Leak 6

6 100.0

Leak 10

6 50.0

39 100.0

Leak 11

39 100.0

Leak 13

80 25.0

100 50.0

87 25.0

84 25.0

Leak 17

39 100.0

Leak 18

39 100.0

Leak 21

39 100.0

Leak 23

6 25.0

39 25.0

24 75.0

Leak 85

26 40.0

4 60.0

Leak 29

59 25.0

4 75.0

Leak 33

32 16.666666666666668

26 16.666666666666668

39 50.0

24 16.666666666666668

Leak 41

43 60.0

39 40.0

Leak 45

32 50.0

43 50.0

Leak 47

46 33.333333333333336

43 66.66666666666667

Leak 50

39 100.0

Leak 40

39 100.0

Leak 54

56 66.66666666666667

52 33.333333333333336

Leak 57

56 100.0

Leak 106

109 100.0

Leak 64

80 12.5

109 37.5

56 12.5

102 25.0

Leak 65

71 33.333333333333336

52 66.66666666666667

Leak 67

76 20.0

71 20.0

52 60.0

Leak 112

71 66.66666666666667

52 33.333333333333336

Leak 72

71 100.0

Leak 84

84 100.0

Leak 86

87 33.333333333333336

84 66.66666666666667

Leak 90

87 50.0

84 50.0

Leak 98

100 20.0

84 80.0

Leak 104

104 33.333333333333336

102 66.66666666666667

Leak 93

84 100.0

Leak 99

100 33.333333333333336

102 66.66666666666667

Leak 53

109 100.0

Leak 61

109 100.0

Count=87

Accuracy=87/114=**76.99%**

No.of possible leak nodes max=**5**