/Library/Java/JavaVirtualMachines/jdk-13.0.1.jdk/Contents/Home/bin/java "-javaagent:/Applications/IntelliJ IDEA.app/Contents/lib/idea_rt.jar=58396:/Applications/IntelliJ IDEA.app/Contents/bin" -Dfile.encoding=UTF-8 -classpath "/Users/lanshunfang/Documents/NEU-Classes-Courses/Program Structure - Algorithms/alg-hw/out/production/alg-hw" org.neu.alg.hw.hw9.GraphTest
Java version used for this program is 13.0.1
GraphTest.java starts

^^^^^^^^
Snake and ladder, the shortest path
1->16->32->36->42
^^^^^^^^

You can see dot file at /Users/lanshunfang/Downloads/graph-output/Board36.dot
------------ Board36 --------------------
DIRECTED GRAPH
Num Vertices = 42
Num Edges   = 254
1 Fanouts: 2,3,16,4,5,6,7
1 FanIns: NONE
2 Fanouts: 3,16,4,5,6,7,8
2 FanIns: 1,6,7,8,9,10,11,12
3 Fanouts: 4,5,6,7,8,9,16
3 FanIns: 1,2
16 Fanouts: 17,18,19,20,21,32,22
16 FanIns: 1,2,10,11,12,13,14,15,3
4 Fanouts: 5,6,7,8,9,10
4 FanIns: 1,2,3,24,25,26,27,28,29,30
5 Fanouts: 6,7,8,9,10,11
5 FanIns: 1,2,3,4
6 Fanouts: 7,8,9,10,11,12,2
6 FanIns: 1,2,3,4,5
7 Fanouts: 8,9,10,11,12,2,13
7 FanIns: 1,2,3,4,5,6
8 Fanouts: 9,10,11,12,2,13,14
8 FanIns: 2,3,4,5,6,7
9 Fanouts: 10,11,12,2,13,14,15,25
9 FanIns: 3,4,5,6,7,8
10 Fanouts: 11,12,2,13,14,15,25,16

10 FanIns: 4,5,6,7,8,9
11 Fanouts: 12,2,13,14,15,25,16,17
11 FanIns: 5,6,7,8,9,10
12 Fanouts: 13,14,15,25,16,17,18,2
12 FanIns: 6,7,8,9,10,11
13 Fanouts: 14,15,25,16,17,18,19
13 FanIns: 7,8,9,10,11,12
14 Fanouts: 15,25,16,17,18,19,20
14 FanIns: 8,9,10,11,12,13
15 Fanouts: 16,17,18,19,20,21,32,25
15 FanIns: 9,10,11,12,13,14
25 Fanouts: 26,27,28,29,30,4,31
25 FanIns: 9,10,11,12,13,14,19,20,21,22,23,24,15
17 Fanouts: 18,19,20,21,32,22,23
17 FanIns: 11,12,13,14,15,16
18 Fanouts: 19,20,21,32,22,23,24
18 FanIns: 12,13,14,15,16,17
19 Fanouts: 20,21,32,22,23,24,25
19 FanIns: 13,14,15,16,17,18
20 Fanouts: 21,32,22,23,24,25,26
20 FanIns: 14,15,16,17,18,19
21 Fanouts: 22,23,24,25,26,27,32
21 FanIns: 15,16,17,18,19,20
32 Fanouts: 33,34,35,22,36,37,38
32 FanIns: 15,16,17,18,19,20,26,27,28,29,30,31,21
22 Fanouts: 23,24,25,26,27,28
22 FanIns: 16,17,18,19,20,21,29,30,31,32,33,34,35
23 Fanouts: 24,25,26,27,28,29
23 FanIns: 17,18,19,20,21,22
24 Fanouts: 25,26,27,28,29,30,4
24 FanIns: 18,19,20,21,22,23
26 Fanouts: 27,28,29,30,4,31,32
26 FanIns: 20,21,22,23,24,25
27 Fanouts: 28,29,30,4,31,32,33
27 FanIns: 21,22,23,24,25,26
28 Fanouts: 29,30,4,31,32,33,34
28 FanIns: 22,23,24,25,26,27
29 Fanouts: 30,4,31,32,33,34,35,22
29 FanIns: 23,24,25,26,27,28
30 Fanouts: 31,32,33,34,35,22,36,4
30 FanIns: 24,25,26,27,28,29

31 Fanouts: 32,33,34,35,22,36,37

31 FanIns: 25,26,27,28,29,30

33 Fanouts: 34,35,22,36,37,38,39

33 FanIns: 27,28,29,30,31,32

34 Fanouts: 35,22,36,37,38,39,40

34 FanIns: 28,29,30,31,32,33

35 Fanouts: 36,37,38,39,40,41,22

35 FanIns: 29,30,31,32,33,34

36 Fanouts: 37,38,39,40,41,42

36 FanIns: 30,31,32,33,34,35

37 Fanouts: NONE

37 FanIns: 31,32,33,34,35,36

38 Fanouts: NONE

38 FanIns: 32,33,34,35,36

39 Fanouts: NONE

39 FanIns: 33,34,35,36

40 Fanouts: NONE

40 FanIns: 34,35,36

41 Fanouts: NONE

41 FanIns: 35,36

42 Fanouts: NONE

42 FanIns: 36

File Board36.txt

Graph Type   = DIRECTED GRAPH

Num Vertices   = 42

Num Edges   = 254

Work done   = 296

BFS order   = 1 2 3 16 4 5 6 7 8 9 17 18 19 20 21 32 22 10 11 12 13 14 15 25 23 24 26 27 33 34 35 36 37 38 28 29 30 31 39 40 41 42

BFS path   = 1 1 1 1 1 1 1 1 2 3 16 16 16 16 16 16 16 4 5 6 7 8 9 9 17 18 20 21 32 32 32 32 32 32 22 25 25 25 33 34 35 36

1

1->2

1->3

1->16

1->4

1->5

1->6

1->7

1->2->8

```
1->3->9
1->16->17
1->16->18
1->16->19
1->16->20
1->16->21
1->16->32
1->16->22
1->4->10
1->5->11
1->6->12
1->7->13
1->2->8->14
1->3->9->15
1->3->9->25
1->16->17->23
1->16->18->24
1->16->20->26
1->16->21->27
1->16->32->33
1->16->32->34
1->16->32->35
1->16->32->36
1->16->32->37
1->16->32->38
1->16->22->28
1->3->9->25->29
1->3->9->25->30
1->3->9->25->31
1->16->32->33->39
1->16->32->34->40
1->16->32->35->41
1->16->32->36->42
------


^^^^^^^
Snake and ladder, the shortest path
1->6->98->100->106
^^^^^^^
```

You can see dot file at /Users/lanshunfang/Downloads/graph-output/Board100case1.dot

------------ Board100case1 --------------------

DIRECTED GRAPH

Num Vertices = 106

Num Edges   = 670

1 Fanouts: 2,3,4,5,6,7

1 FanIns: NONE

2 Fanouts: 3,4,5,6,7,8

2 FanIns: 1

3 Fanouts: 4,5,6,7,8,9

3 FanIns: 1,2

4 Fanouts: 5,6,7,8,9,10

4 FanIns: 1,2,3

5 Fanouts: 6,7,8,9,10,11

5 FanIns: 1,2,3,4

6 Fanouts: 7,8,9,10,11,12,98

6 FanIns: 1,2,3,4,5

7 Fanouts: 8,9,10,11,12,98,13

7 FanIns: 1,2,3,4,5,6

8 Fanouts: 9,10,11,12,98,13,14

8 FanIns: 2,3,4,5,6,7

9 Fanouts: 10,11,12,98,13,14,15

9 FanIns: 3,4,5,6,7,8

10 Fanouts: 11,12,98,13,14,15,16

10 FanIns: 4,5,6,7,8,9

11 Fanouts: 12,98,13,14,15,16,17

11 FanIns: 5,6,7,8,9,10

12 Fanouts: 13,14,15,16,17,18,98

12 FanIns: 6,7,8,9,10,11

98 Fanouts: 99,100,101,102,103,104

98 FanIns: 6,7,8,9,10,11,92,93,94,95,96,97,12

13 Fanouts: 14,15,16,17,18,19

13 FanIns: 7,8,9,10,11,12,89,90,91,92,93,94,95

14 Fanouts: 15,16,17,18,19,20

14 FanIns: 8,9,10,11,12,13

15 Fanouts: 16,17,18,19,20,21

15 FanIns: 9,10,11,12,13,14

16 Fanouts: 17,18,19,20,21,22

16 FanIns: 10,11,12,13,14,15

17 Fanouts: 18,19,20,21,22,23
17 FanIns: 11,12,13,14,15,16,61,62,63,64,65,66,67
18 Fanouts: 19,20,21,22,23,24
18 FanIns: 12,13,14,15,16,17
19 Fanouts: 20,21,22,23,24,25
19 FanIns: 13,14,15,16,17,18,69,70,71,72,73,74,75
20 Fanouts: 21,22,23,24,25,26
20 FanIns: 14,15,16,17,18,19
21 Fanouts: 22,23,24,25,26,27
21 FanIns: 15,16,17,18,19,20
22 Fanouts: 23,24,25,26,27,28
22 FanIns: 16,17,18,19,20,21
23 Fanouts: 24,25,26,27,28,29
23 FanIns: 17,18,19,20,21,22
24 Fanouts: 25,26,27,28,29,30
24 FanIns: 18,19,20,21,22,23
25 Fanouts: 26,27,28,29,30,31
25 FanIns: 19,20,21,22,23,24,91,92,93,94,95,96,97
26 Fanouts: 27,28,29,30,31,32,62
26 FanIns: 20,21,22,23,24,25
27 Fanouts: 28,29,30,31,32,62,33
27 FanIns: 21,22,23,24,25,26,73,74,75,76,77,78,79
28 Fanouts: 29,30,31,32,62,33,34
28 FanIns: 22,23,24,25,26,27
29 Fanouts: 30,31,32,62,33,34,35
29 FanIns: 23,24,25,26,27,28
30 Fanouts: 31,32,62,33,34,35,36
30 FanIns: 24,25,26,27,28,29
31 Fanouts: 32,62,33,34,35,36,37
31 FanIns: 25,26,27,28,29,30
32 Fanouts: 33,34,35,36,37,38,62
32 FanIns: 26,27,28,29,30,31
62 Fanouts: 63,64,65,66,67,17,68
62 FanIns: 26,27,28,29,30,31,56,57,58,59,60,61,32
33 Fanouts: 34,35,36,37,38,39
33 FanIns: 27,28,29,30,31,32
34 Fanouts: 35,36,37,38,39,40
34 FanIns: 28,29,30,31,32,33
35 Fanouts: 36,37,38,39,40,41
35 FanIns: 29,30,31,32,33,34
36 Fanouts: 37,38,39,40,41,42,68

36 FanIns: 30,31,32,33,34,35
37 Fanouts: 38,39,40,41,42,68,43
37 FanIns: 31,32,33,34,35,36,87,88,89,90,91,92,93
38 Fanouts: 39,40,41,42,68,43,44
38 FanIns: 32,33,34,35,36,37
39 Fanouts: 40,41,42,68,43,44,45
39 FanIns: 33,34,35,36,37,38
40 Fanouts: 41,42,68,43,44,45,46
40 FanIns: 34,35,36,37,38,39
41 Fanouts: 42,68,43,44,45,46,47
41 FanIns: 35,36,37,38,39,40
42 Fanouts: 43,44,45,46,47,48,68
42 FanIns: 36,37,38,39,40,41
68 Fanouts: 69,70,71,72,73,74
68 FanIns: 36,37,38,39,40,41,62,63,64,65,66,67,42
43 Fanouts: 44,45,46,47,48,49,47
43 FanIns: 37,38,39,40,41,42
44 Fanouts: 45,46,47,48,49,47,50
44 FanIns: 38,39,40,41,42,43
45 Fanouts: 46,47,48,49,47,50,51
45 FanIns: 39,40,41,42,43,44
46 Fanouts: 47,48,49,47,50,51,52
46 FanIns: 40,41,42,43,44,45
47 Fanouts: 48,49,47,50,51,52,53
47 FanIns: 41,42,43,43,44,44,45,45,46,46,47,48,49
48 Fanouts: 49,47,50,51,52,53,54
48 FanIns: 42,43,44,45,46,47
49 Fanouts: 50,51,52,53,54,55,47
49 FanIns: 43,44,45,46,47,48
50 Fanouts: 51,52,53,54,55,56
50 FanIns: 44,45,46,47,48,49
51 Fanouts: 52,53,54,55,56,57
51 FanIns: 45,46,47,48,49,50
52 Fanouts: 53,54,55,56,57,58
52 FanIns: 46,47,48,49,50,51
53 Fanouts: 54,55,56,57,58,59
53 FanIns: 47,48,49,50,51,52
54 Fanouts: 55,56,57,58,59,60
54 FanIns: 48,49,50,51,52,53
55 Fanouts: 56,57,58,59,60,61
55 FanIns: 49,50,51,52,53,54

56 Fanouts: 57,58,59,60,61,62
56 FanIns: 50,51,52,53,54,55
57 Fanouts: 58,59,60,61,62,63
57 FanIns: 51,52,53,54,55,56
58 Fanouts: 59,60,61,62,63,64
58 FanIns: 52,53,54,55,56,57
59 Fanouts: 60,61,62,63,64,65
59 FanIns: 53,54,55,56,57,58
60 Fanouts: 61,62,63,64,65,66
60 FanIns: 54,55,56,57,58,59
61 Fanouts: 62,63,64,65,66,67,17
61 FanIns: 55,56,57,58,59,60
63 Fanouts: 64,65,66,67,17,68,69
63 FanIns: 57,58,59,60,61,62
64 Fanouts: 65,66,67,17,68,69,70
64 FanIns: 58,59,60,61,62,63
65 Fanouts: 66,67,17,68,69,70,71
65 FanIns: 59,60,61,62,63,64
66 Fanouts: 67,17,68,69,70,71,72
66 FanIns: 60,61,62,63,64,65
67 Fanouts: 68,69,70,71,72,73,17
67 FanIns: 61,62,63,64,65,66
69 Fanouts: 70,71,72,73,74,75,19
69 FanIns: 63,64,65,66,67,68
70 Fanouts: 71,72,73,74,75,19,76
70 FanIns: 64,65,66,67,68,69
71 Fanouts: 72,73,74,75,19,76,77
71 FanIns: 65,66,67,68,69,70
72 Fanouts: 73,74,75,19,76,77,78
72 FanIns: 66,67,68,69,70,71
73 Fanouts: 74,75,19,76,77,78,79,27
73 FanIns: 67,68,69,70,71,72
74 Fanouts: 75,19,76,77,78,79,27,80
74 FanIns: 68,69,70,71,72,73
75 Fanouts: 76,77,78,79,27,80,81,19
75 FanIns: 69,70,71,72,73,74
76 Fanouts: 77,78,79,27,80,81,82
76 FanIns: 70,71,72,73,74,75
77 Fanouts: 78,79,27,80,81,82,83
77 FanIns: 71,72,73,74,75,76
78 Fanouts: 79,27,80,81,82,83,84

78 FanIns: 72,73,74,75,76,77
79 Fanouts: 80,81,82,83,84,85,27
79 FanIns: 73,74,75,76,77,78
80 Fanouts: 81,82,83,84,85,86
80 FanIns: 74,75,76,77,78,79
81 Fanouts: 82,83,84,85,86,87
81 FanIns: 75,76,77,78,79,80
82 Fanouts: 83,84,85,86,87,88
82 FanIns: 76,77,78,79,80,81
83 Fanouts: 84,85,86,87,88,89
83 FanIns: 77,78,79,80,81,82
84 Fanouts: 85,86,87,88,89,90
84 FanIns: 78,79,80,81,82,83
85 Fanouts: 86,87,88,89,90,91
85 FanIns: 79,80,81,82,83,84
86 Fanouts: 87,88,89,90,91,92
86 FanIns: 80,81,82,83,84,85
87 Fanouts: 88,89,90,91,92,93,37
87 FanIns: 81,82,83,84,85,86
88 Fanouts: 89,90,91,92,93,37,94
88 FanIns: 82,83,84,85,86,87
89 Fanouts: 90,91,92,93,37,94,95,13
89 FanIns: 83,84,85,86,87,88
90 Fanouts: 91,92,93,37,94,95,13,96
90 FanIns: 84,85,86,87,88,89
91 Fanouts: 92,93,37,94,95,13,96,97,25
91 FanIns: 85,86,87,88,89,90
92 Fanouts: 93,37,94,95,13,96,97,25,98
92 FanIns: 86,87,88,89,90,91
93 Fanouts: 94,95,13,96,97,25,98,99,37
93 FanIns: 87,88,89,90,91,92
94 Fanouts: 95,13,96,97,25,98,99,100
94 FanIns: 88,89,90,91,92,93
95 Fanouts: 96,97,25,98,99,100,101,13
95 FanIns: 89,90,91,92,93,94
96 Fanouts: 97,25,98,99,100,101,102
96 FanIns: 90,91,92,93,94,95
97 Fanouts: 98,99,100,101,102,103,25
97 FanIns: 91,92,93,94,95,96
99 Fanouts: 100,101,102,103,104,105
99 FanIns: 93,94,95,96,97,98

100 Fanouts: 101,102,103,104,105,106

100 FanIns: 94,95,96,97,98,99

101 Fanouts: NONE

101 FanIns: 95,96,97,98,99,100

102 Fanouts: NONE

102 FanIns: 96,97,98,99,100

103 Fanouts: NONE

103 FanIns: 97,98,99,100

104 Fanouts: NONE

104 FanIns: 98,99,100

105 Fanouts: NONE

105 FanIns: 99,100

106 Fanouts: NONE

106 FanIns: 100

File Board100case1.txt

Graph Type   = DIRECTED GRAPH

Num Vertices   = 106

Num Edges   = 670

Work done   = 776

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

BFS path   = 1 1 1 1 1 1 1 2 3 4 5 6 6 7 8 9 10 11 12 98 98 98 98 98 98 13 14 15 16 17 18 99 100 19 20 21 22 23 24 25 26 26 27 28 29 30 31 32 62 62 62 62 62 62 33 34 35 36 37 38 63 64 65 66 67 68 39 40 41 42 43 44 69 70 71 72 73 74 45 46 47 48 49 50 75 76 77 78 79 80 51 52 53 54 55 81 82 83 84 85 86 87 88 89 90 91

1

1->2

1->3

1->4

1->5

1->6

1->7

1->2->8

1->3->9

1->4->10

1->5->11

1->6->12

1->6->98

1->7->13

1->2->8->14
1->3->9->15
1->4->10->16
1->5->11->17
1->6->12->18
1->6->98->99
1->6->98->100
1->6->98->101
1->6->98->102
1->6->98->103
1->6->98->104
1->7->13->19
1->2->8->14->20
1->3->9->15->21
1->4->10->16->22
1->5->11->17->23
1->6->12->18->24
1->6->98->99->105
1->6->98->100->106
1->7->13->19->25
1->2->8->14->20->26
1->3->9->15->21->27
1->4->10->16->22->28
1->5->11->17->23->29
1->6->12->18->24->30
1->7->13->19->25->31
1->2->8->14->20->26->32
1->2->8->14->20->26->62
1->3->9->15->21->27->33
1->4->10->16->22->28->34
1->5->11->17->23->29->35
1->6->12->18->24->30->36
1->7->13->19->25->31->37
1->2->8->14->20->26->32->38
1->2->8->14->20->26->62->63
1->2->8->14->20->26->62->64
1->2->8->14->20->26->62->65
1->2->8->14->20->26->62->66
1->2->8->14->20->26->62->67
1->2->8->14->20->26->62->68
1->3->9->15->21->27->33->39

1->4->10->16->22->28->34->40
1->5->11->17->23->29->35->41
1->6->12->18->24->30->36->42
1->7->13->19->25->31->37->43
1->2->8->14->20->26->32->38->44
1->2->8->14->20->26->62->63->69
1->2->8->14->20->26->62->64->70
1->2->8->14->20->26->62->65->71
1->2->8->14->20->26->62->66->72
1->2->8->14->20->26->62->67->73
1->2->8->14->20->26->62->68->74
1->3->9->15->21->27->33->39->45
1->4->10->16->22->28->34->40->46
1->5->11->17->23->29->35->41->47
1->6->12->18->24->30->36->42->48
1->7->13->19->25->31->37->43->49
1->2->8->14->20->26->32->38->44->50
1->2->8->14->20->26->62->63->69->75
1->2->8->14->20->26->62->64->70->76
1->2->8->14->20->26->62->65->71->77
1->2->8->14->20->26->62->66->72->78
1->2->8->14->20->26->62->67->73->79
1->2->8->14->20->26->62->68->74->80
1->3->9->15->21->27->33->39->45->51
1->4->10->16->22->28->34->40->46->52
1->5->11->17->23->29->35->41->47->53
1->6->12->18->24->30->36->42->48->54
1->7->13->19->25->31->37->43->49->55
1->2->8->14->20->26->32->38->44->50->56
1->2->8->14->20->26->62->63->69->75->81
1->2->8->14->20->26->62->64->70->76->82
1->2->8->14->20->26->62->65->71->77->83
1->2->8->14->20->26->62->66->72->78->84
1->2->8->14->20->26->62->67->73->79->85
1->2->8->14->20->26->62->68->74->80->86
1->3->9->15->21->27->33->39->45->51->57
1->4->10->16->22->28->34->40->46->52->58
1->5->11->17->23->29->35->41->47->53->59
1->6->12->18->24->30->36->42->48->54->60
1->7->13->19->25->31->37->43->49->55->61
1->2->8->14->20->26->62->63->69->75->81->87

1->2->8->14->20->26->62->64->70->76->82->88
1->2->8->14->20->26->62->65->71->77->83->89
1->2->8->14->20->26->62->66->72->78->84->90
1->2->8->14->20->26->62->67->73->79->85->91
1->2->8->14->20->26->62->68->74->80->86->92
1->2->8->14->20->26->62->63->69->75->81->87->93
1->2->8->14->20->26->62->64->70->76->82->88->94
1->2->8->14->20->26->62->65->71->77->83->89->95
1->2->8->14->20->26->62->66->72->78->84->90->96
1->2->8->14->20->26->62->67->73->79->85->91->97

------

^^^^^^^^
Snake and ladder, the shortest path
1->81->82->88->94->100->106
^^^^^^^^

You can see dot file at /Users/lanshunfang/Downloads/graph-output/Board100case2.dot
------------ Board100case2 --------------------
DIRECTED GRAPH
Num Vertices = 106
Num Edges   = 681
1 Fanouts: 2,72,3,81,4,5,6,80,7,53
1 FanIns: NONE
2 Fanouts: 3,81,4,5,6,80,7,53,8,52,72
2 FanIns: 1
72 Fanouts: 73,74,75,76,77,78
72 FanIns: 1,66,67,68,69,70,71,2
3 Fanouts: 4,5,6,80,7,53,8,52,9,81
3 FanIns: 1,2
81 Fanouts: 82,83,84,85,86,87
81 FanIns: 1,2,75,76,77,78,79,80,3
4 Fanouts: 5,6,80,7,53,8,52,9,10
4 FanIns: 1,2,3
5 Fanouts: 6,80,7,53,8,52,9,10,11
5 FanIns: 1,2,3,4,53,54,55,56,57,58,59
6 Fanouts: 7,53,8,52,9,10,11,12,80
6 FanIns: 1,2,3,4,5

80 Fanouts: 81,82,83,84,85,86
80 FanIns: 1,2,3,4,5,74,75,76,77,78,79,6
7 Fanouts: 8,52,9,10,11,12,13,53
7 FanIns: 1,2,3,4,5,6
53 Fanouts: 54,55,56,57,58,59,5
53 FanIns: 1,2,3,4,5,6,47,48,49,50,51,52,7
8 Fanouts: 9,10,11,12,13,14,52
8 FanIns: 2,3,4,5,6,7
52 Fanouts: 53,54,55,56,57,58
52 FanIns: 2,3,4,5,6,7,46,47,48,49,50,51,8
9 Fanouts: 10,11,12,13,14,15
9 FanIns: 3,4,5,6,7,8
10 Fanouts: 11,12,13,14,15,16
10 FanIns: 4,5,6,7,8,9
11 Fanouts: 12,13,14,15,16,17
11 FanIns: 5,6,7,8,9,10,33,34,35,36,37,38,39
12 Fanouts: 13,14,15,16,17,18
12 FanIns: 6,7,8,9,10,11
13 Fanouts: 14,15,16,17,18,19
13 FanIns: 7,8,9,10,11,12
14 Fanouts: 15,16,17,18,19,20
14 FanIns: 8,9,10,11,12,13
15 Fanouts: 16,17,18,19,20,21,77
15 FanIns: 9,10,11,12,13,14
16 Fanouts: 17,18,19,20,21,77,22
16 FanIns: 10,11,12,13,14,15
17 Fanouts: 18,19,20,21,77,22,23
17 FanIns: 11,12,13,14,15,16
18 Fanouts: 19,20,21,77,22,23,24
18 FanIns: 12,13,14,15,16,17
19 Fanouts: 20,21,77,22,23,24,25
19 FanIns: 13,14,15,16,17,18,45,46,47,48,49,50,51
20 Fanouts: 21,77,22,23,24,25,26
20 FanIns: 14,15,16,17,18,19
21 Fanouts: 22,23,24,25,26,27,77
21 FanIns: 15,16,17,18,19,20
77 Fanouts: 78,79,23,80,81,82,83
77 FanIns: 15,16,17,18,19,20,71,72,73,74,75,76,21
22 Fanouts: 23,24,25,26,27,28
22 FanIns: 16,17,18,19,20,21
23 Fanouts: 24,25,26,27,28,29,37

23 FanIns: 17,18,19,20,21,22,73,74,75,76,77,78,79
24 Fanouts: 25,26,27,28,29,37,30
24 FanIns: 18,19,20,21,22,23
25 Fanouts: 26,27,28,29,37,30,31
25 FanIns: 19,20,21,22,23,24
26 Fanouts: 27,28,29,37,30,31,32
26 FanIns: 20,21,22,23,24,25,36,37,38,39,40,41,42
27 Fanouts: 28,29,37,30,31,32,33
27 FanIns: 21,22,23,24,25,26
28 Fanouts: 29,37,30,31,32,33,34
28 FanIns: 22,23,24,25,26,27
29 Fanouts: 30,31,32,33,34,35,37
29 FanIns: 23,24,25,26,27,28
37 Fanouts: 38,39,11,40,41,42,26,43,33
37 FanIns: 23,24,25,26,27,28,31,32,33,34,35,36,29
30 Fanouts: 31,32,33,34,35,36
30 FanIns: 24,25,26,27,28,29
31 Fanouts: 32,33,34,35,36,37
31 FanIns: 25,26,27,28,29,30
32 Fanouts: 33,34,35,36,37,38
32 FanIns: 26,27,28,29,30,31
33 Fanouts: 34,35,36,37,38,39,11
33 FanIns: 27,28,29,30,31,32,37,38,39,40,41,42,43
34 Fanouts: 35,36,37,38,39,11,40
34 FanIns: 28,29,30,31,32,33
35 Fanouts: 36,37,38,39,11,40,41
35 FanIns: 29,30,31,32,33,34
36 Fanouts: 37,38,39,11,40,41,42,26
36 FanIns: 30,31,32,33,34,35
38 Fanouts: 39,11,40,41,42,26,43,33,44
38 FanIns: 32,33,34,35,36,37
39 Fanouts: 40,41,42,26,43,33,44,45,11
39 FanIns: 33,34,35,36,37,38
40 Fanouts: 41,42,26,43,33,44,45,46
40 FanIns: 34,35,36,37,38,39
41 Fanouts: 42,26,43,33,44,45,46,47
41 FanIns: 35,36,37,38,39,40
42 Fanouts: 43,33,44,45,46,47,48,26
42 FanIns: 36,37,38,39,40,41
43 Fanouts: 44,45,46,47,48,49,33
43 FanIns: 37,38,39,40,41,42

44 Fanouts: 45,46,47,48,49,50
44 FanIns: 38,39,40,41,42,43
45 Fanouts: 46,47,48,49,50,51,19
45 FanIns: 39,40,41,42,43,44
46 Fanouts: 47,48,49,50,51,19,52
46 FanIns: 40,41,42,43,44,45
47 Fanouts: 48,49,50,51,19,52,53
47 FanIns: 41,42,43,44,45,46
48 Fanouts: 49,50,51,19,52,53,54
48 FanIns: 42,43,44,45,46,47
49 Fanouts: 50,51,19,52,53,54,55
49 FanIns: 43,44,45,46,47,48
50 Fanouts: 51,19,52,53,54,55,56
50 FanIns: 44,45,46,47,48,49
51 Fanouts: 52,53,54,55,56,57,19
51 FanIns: 45,46,47,48,49,50
54 Fanouts: 55,56,57,58,59,5,60
54 FanIns: 48,49,50,51,52,53
55 Fanouts: 56,57,58,59,5,60,61
55 FanIns: 49,50,51,52,53,54
56 Fanouts: 57,58,59,5,60,61,62
56 FanIns: 50,51,52,53,54,55
57 Fanouts: 58,59,5,60,61,62,63
57 FanIns: 51,52,53,54,55,56
58 Fanouts: 59,5,60,61,62,63,64
58 FanIns: 52,53,54,55,56,57
59 Fanouts: 60,61,62,63,64,65,5
59 FanIns: 53,54,55,56,57,58
60 Fanouts: 61,62,63,64,65,66
60 FanIns: 54,55,56,57,58,59
61 Fanouts: 62,63,64,65,66,67
61 FanIns: 55,56,57,58,59,60
62 Fanouts: 63,64,65,66,67,68
62 FanIns: 56,57,58,59,60,61
63 Fanouts: 64,65,66,67,68,69
63 FanIns: 57,58,59,60,61,62
64 Fanouts: 65,66,67,68,69,70
64 FanIns: 58,59,60,61,62,63
65 Fanouts: 66,67,68,69,70,71
65 FanIns: 59,60,61,62,63,64
66 Fanouts: 67,68,69,70,71,72

66 FanIns: 60,61,62,63,64,65
67 Fanouts: 68,69,70,71,72,73
67 FanIns: 61,62,63,64,65,66
68 Fanouts: 69,70,71,72,73,74
68 FanIns: 62,63,64,65,66,67
69 Fanouts: 70,71,72,73,74,75
69 FanIns: 63,64,65,66,67,68
70 Fanouts: 71,72,73,74,75,76
70 FanIns: 64,65,66,67,68,69
71 Fanouts: 72,73,74,75,76,77
71 FanIns: 65,66,67,68,69,70
73 Fanouts: 74,75,76,77,78,79,23
73 FanIns: 67,68,69,70,71,72
74 Fanouts: 75,76,77,78,79,23,80
74 FanIns: 68,69,70,71,72,73
75 Fanouts: 76,77,78,79,23,80,81
75 FanIns: 69,70,71,72,73,74
76 Fanouts: 77,78,79,23,80,81,82
76 FanIns: 70,71,72,73,74,75
78 Fanouts: 79,23,80,81,82,83,84
78 FanIns: 72,73,74,75,76,77
79 Fanouts: 80,81,82,83,84,85,23
79 FanIns: 73,74,75,76,77,78
82 Fanouts: 83,84,85,86,87,88
82 FanIns: 76,77,78,79,80,81
83 Fanouts: 84,85,86,87,88,89
83 FanIns: 77,78,79,80,81,82
84 Fanouts: 85,86,87,88,89,90
84 FanIns: 78,79,80,81,82,83
85 Fanouts: 86,87,88,89,90,91
85 FanIns: 79,80,81,82,83,84
86 Fanouts: 87,88,89,90,91,92
86 FanIns: 80,81,82,83,84,85
87 Fanouts: 88,89,90,91,92,93
87 FanIns: 81,82,83,84,85,86
88 Fanouts: 89,90,91,92,93,94
88 FanIns: 82,83,84,85,86,87
89 Fanouts: 90,91,92,93,94,95
89 FanIns: 83,84,85,86,87,88
90 Fanouts: 91,92,93,94,95,96
90 FanIns: 84,85,86,87,88,89

91 Fanouts: 92,93,94,95,96,97
91 FanIns: 85,86,87,88,89,90
92 Fanouts: 93,94,95,96,97,98
92 FanIns: 86,87,88,89,90,91
93 Fanouts: 94,95,96,97,98,99
93 FanIns: 87,88,89,90,91,92
94 Fanouts: 95,96,97,98,99,100
94 FanIns: 88,89,90,91,92,93
95 Fanouts: 96,97,98,99,100,101
95 FanIns: 89,90,91,92,93,94
96 Fanouts: 97,98,99,100,101,102
96 FanIns: 90,91,92,93,94,95
97 Fanouts: 98,99,100,101,102,103
97 FanIns: 91,92,93,94,95,96
98 Fanouts: 99,100,101,102,103,104
98 FanIns: 92,93,94,95,96,97
99 Fanouts: 100,101,102,103,104,105
99 FanIns: 93,94,95,96,97,98
100 Fanouts: 101,102,103,104,105,106
100 FanIns: 94,95,96,97,98,99
101 Fanouts: NONE
101 FanIns: 95,96,97,98,99,100
102 Fanouts: NONE
102 FanIns: 96,97,98,99,100
103 Fanouts: NONE
103 FanIns: 97,98,99,100
104 Fanouts: NONE
104 FanIns: 98,99,100
105 Fanouts: NONE
105 FanIns: 99,100
106 Fanouts: NONE
106 FanIns: 100

File Board100case2.txt
Graph Type   = DIRECTED GRAPH
Num Vertices   = 106
Num Edges   = 681
Work done   = 787
BFS order   = 1 2 72 3 81 4 5 6 80 7 53 8 52 73 74 75 76 77 78 9 82 83 84 85 86 87 10 11 12 13 54 55 56 57
58 59 14 79 23 15 88 89 90 91 92 93 16 17 18 19 60 61 62 63 64 65 20 24 25 26 27 28 29 37 21 94 95 96 97 98
99 22 66 67 68 69 70 71 30 31 32 33 34 35 38 39 40 41 42 43 100 101 102 103 104 105 36 44 45 46 47 48 49

106 50 51

BFS path   = 1 1 1 1 1 1 1 1 1 1 1 1 2 2 72 72 72 72 72 72 3 81 81 81 81 81 81 4 5 6 7 53 53 53 53 53 53 8 73 73 9 82 83 84 85 86 87 10 11 12 13 54 55 56 57 58 59 14 23 23 23 23 23 23 23 15 88 89 90 91 92 93 16 60 61 62 63 64 65 24 25 26 27 28 29 37 37 37 37 37 37 94 95 96 97 98 99 30 38 39 40 41 42 43 100 44 45

1

1->2

1->72

1->3

1->81

1->4

1->5

1->6

1->80

1->7

1->53

1->2->8

1->2->52

1->72->73

1->72->74

1->72->75

1->72->76

1->72->77

1->72->78

1->3->9

1->81->82

1->81->83

1->81->84

1->81->85

1->81->86

1->81->87

1->4->10

1->5->11

1->6->12

1->7->13

1->53->54

1->53->55

1->53->56

1->53->57

1->53->58

1->53->59

1->2->8->14

1->72->73->79
1->72->73->23
1->3->9->15
1->81->82->88
1->81->83->89
1->81->84->90
1->81->85->91
1->81->86->92
1->81->87->93
1->4->10->16
1->5->11->17
1->6->12->18
1->7->13->19
1->53->54->60
1->53->55->61
1->53->56->62
1->53->57->63
1->53->58->64
1->53->59->65
1->2->8->14->20
1->72->73->23->24
1->72->73->23->25
1->72->73->23->26
1->72->73->23->27
1->72->73->23->28
1->72->73->23->29
1->72->73->23->37
1->3->9->15->21
1->81->82->88->94
1->81->83->89->95
1->81->84->90->96
1->81->85->91->97
1->81->86->92->98
1->81->87->93->99
1->4->10->16->22
1->53->54->60->66
1->53->55->61->67
1->53->56->62->68
1->53->57->63->69
1->53->58->64->70
1->53->59->65->71

```
1->72->73->23->24->30
1->72->73->23->25->31
1->72->73->23->26->32
1->72->73->23->27->33
1->72->73->23->28->34
1->72->73->23->29->35
1->72->73->23->37->38
1->72->73->23->37->39
1->72->73->23->37->40
1->72->73->23->37->41
1->72->73->23->37->42
1->72->73->23->37->43
1->81->82->88->94->100
1->81->83->89->95->101
1->81->84->90->96->102
1->81->85->91->97->103
1->81->86->92->98->104
1->81->87->93->99->105
1->72->73->23->24->30->36
1->72->73->23->37->38->44
1->72->73->23->37->39->45
1->72->73->23->37->40->46
1->72->73->23->37->41->47
1->72->73->23->37->42->48
1->72->73->23->37->43->49
1->81->82->88->94->100->106
1->72->73->23->37->38->44->50
1->72->73->23->37->39->45->51
------



^^^^^^^^
Snake and ladder, the shortest path
1->82->63->99->105
^^^^^^^^



You can see dot file at /Users/lanshunfang/Downloads/graph-output/SnakeisNotBad.dot
------------ SnakeisNotBad --------------------
DIRECTED GRAPH
```

Num Vertices = 105
Num Edges   = 610
1 Fanouts: 2,82,3,4,5,6,7
1 FanIns: NONE
2 Fanouts: 3,4,5,6,7,8,82
2 FanIns: 1
82 Fanouts: 83,84,63,85,86,87,88
82 FanIns: 1,76,77,78,79,80,81,2
3 Fanouts: 4,5,6,7,8,9
3 FanIns: 1,2
4 Fanouts: 5,6,7,8,9,10
4 FanIns: 1,2,3
5 Fanouts: 6,7,8,9,10,11
5 FanIns: 1,2,3,4
6 Fanouts: 7,8,9,10,11,12
6 FanIns: 1,2,3,4,5
7 Fanouts: 8,9,10,11,12,13
7 FanIns: 1,2,3,4,5,6
8 Fanouts: 9,10,11,12,13,14
8 FanIns: 2,3,4,5,6,7
9 Fanouts: 10,11,12,13,14,15
9 FanIns: 3,4,5,6,7,8
10 Fanouts: 11,12,13,14,15,16
10 FanIns: 4,5,6,7,8,9
11 Fanouts: 12,13,14,15,16,17
11 FanIns: 5,6,7,8,9,10
12 Fanouts: 13,14,15,16,17,18
12 FanIns: 6,7,8,9,10,11
13 Fanouts: 14,15,16,17,18,19
13 FanIns: 7,8,9,10,11,12
14 Fanouts: 15,16,17,18,19,20
14 FanIns: 8,9,10,11,12,13
15 Fanouts: 16,17,18,19,20,21
15 FanIns: 9,10,11,12,13,14
16 Fanouts: 17,18,19,20,21,22
16 FanIns: 10,11,12,13,14,15
17 Fanouts: 18,19,20,21,22,23
17 FanIns: 11,12,13,14,15,16
18 Fanouts: 19,20,21,22,23,24
18 FanIns: 12,13,14,15,16,17
19 Fanouts: 20,21,22,23,24,25

19 FanIns: 13,14,15,16,17,18
20 Fanouts: 21,22,23,24,25,26
20 FanIns: 14,15,16,17,18,19
21 Fanouts: 22,23,24,25,26,27
21 FanIns: 15,16,17,18,19,20
22 Fanouts: 23,24,25,26,27,28
22 FanIns: 16,17,18,19,20,21
23 Fanouts: 24,25,26,27,28,29
23 FanIns: 17,18,19,20,21,22
24 Fanouts: 25,26,27,28,29,30
24 FanIns: 18,19,20,21,22,23
25 Fanouts: 26,27,28,29,30,31
25 FanIns: 19,20,21,22,23,24
26 Fanouts: 27,28,29,30,31,32
26 FanIns: 20,21,22,23,24,25
27 Fanouts: 28,29,30,31,32,33
27 FanIns: 21,22,23,24,25,26
28 Fanouts: 29,30,31,32,33,34
28 FanIns: 22,23,24,25,26,27
29 Fanouts: 30,31,32,33,34,35
29 FanIns: 23,24,25,26,27,28
30 Fanouts: 31,32,33,34,35,36
30 FanIns: 24,25,26,27,28,29
31 Fanouts: 32,33,34,35,36,37
31 FanIns: 25,26,27,28,29,30
32 Fanouts: 33,34,35,36,37,38
32 FanIns: 26,27,28,29,30,31
33 Fanouts: 34,35,36,37,38,39
33 FanIns: 27,28,29,30,31,32
34 Fanouts: 35,36,37,38,39,40
34 FanIns: 28,29,30,31,32,33
35 Fanouts: 36,37,38,39,40,41
35 FanIns: 29,30,31,32,33,34
36 Fanouts: 37,38,39,40,41,42
36 FanIns: 30,31,32,33,34,35
37 Fanouts: 38,39,40,41,42,43
37 FanIns: 31,32,33,34,35,36
38 Fanouts: 39,40,41,42,43,44
38 FanIns: 32,33,34,35,36,37
39 Fanouts: 40,41,42,43,44,45
39 FanIns: 33,34,35,36,37,38

40 Fanouts: 41,42,43,44,45,46
40 FanIns: 34,35,36,37,38,39
41 Fanouts: 42,43,44,45,46,47
41 FanIns: 35,36,37,38,39,40
42 Fanouts: 43,44,45,46,47,48
42 FanIns: 36,37,38,39,40,41
43 Fanouts: 44,45,46,47,48,49
43 FanIns: 37,38,39,40,41,42
44 Fanouts: 45,46,47,48,49,50
44 FanIns: 38,39,40,41,42,43
45 Fanouts: 46,47,48,49,50,51
45 FanIns: 39,40,41,42,43,44
46 Fanouts: 47,48,49,50,51,52
46 FanIns: 40,41,42,43,44,45
47 Fanouts: 48,49,50,51,52,53
47 FanIns: 41,42,43,44,45,46
48 Fanouts: 49,50,51,52,53,54
48 FanIns: 42,43,44,45,46,47
49 Fanouts: 50,51,52,53,54,55
49 FanIns: 43,44,45,46,47,48
50 Fanouts: 51,52,53,54,55,56
50 FanIns: 44,45,46,47,48,49
51 Fanouts: 52,53,54,55,56,57
51 FanIns: 45,46,47,48,49,50
52 Fanouts: 53,54,55,56,57,58
52 FanIns: 46,47,48,49,50,51
53 Fanouts: 54,55,56,57,58,59
53 FanIns: 47,48,49,50,51,52
54 Fanouts: 55,56,57,58,59,60
54 FanIns: 48,49,50,51,52,53
55 Fanouts: 56,57,58,59,60,61
55 FanIns: 49,50,51,52,53,54
56 Fanouts: 57,58,59,60,61,62
56 FanIns: 50,51,52,53,54,55
57 Fanouts: 58,59,60,61,62,63
57 FanIns: 51,52,53,54,55,56
58 Fanouts: 59,60,61,62,63,64,99
58 FanIns: 52,53,54,55,56,57
59 Fanouts: 60,61,62,63,64,99,65
59 FanIns: 53,54,55,56,57,58
60 Fanouts: 61,62,63,64,99,65,66

60 FanIns: 54,55,56,57,58,59
61 Fanouts: 62,63,64,99,65,66,67
61 FanIns: 55,56,57,58,59,60
62 Fanouts: 63,64,99,65,66,67,68
62 FanIns: 56,57,58,59,60,61
63 Fanouts: 64,99,65,66,67,68,69
63 FanIns: 57,58,59,60,61,62,78,79,80,81,82,83,84
64 Fanouts: 65,66,67,68,69,70,99
64 FanIns: 58,59,60,61,62,63
99 Fanouts: 100,101,102,103,104,105
99 FanIns: 58,59,60,61,62,63,93,94,95,96,97,98,64
65 Fanouts: 66,67,68,69,70,71
65 FanIns: 59,60,61,62,63,64
66 Fanouts: 67,68,69,70,71,72
66 FanIns: 60,61,62,63,64,65
67 Fanouts: 68,69,70,71,72,73
67 FanIns: 61,62,63,64,65,66
68 Fanouts: 69,70,71,72,73,74
68 FanIns: 62,63,64,65,66,67
69 Fanouts: 70,71,72,73,74,75
69 FanIns: 63,64,65,66,67,68
70 Fanouts: 71,72,73,74,75,76
70 FanIns: 64,65,66,67,68,69
71 Fanouts: 72,73,74,75,76,77
71 FanIns: 65,66,67,68,69,70
72 Fanouts: 73,74,75,76,77,78
72 FanIns: 66,67,68,69,70,71
73 Fanouts: 74,75,76,77,78,79
73 FanIns: 67,68,69,70,71,72
74 Fanouts: 75,76,77,78,79,80
74 FanIns: 68,69,70,71,72,73
75 Fanouts: 76,77,78,79,80,81
75 FanIns: 69,70,71,72,73,74
76 Fanouts: 77,78,79,80,81,82
76 FanIns: 70,71,72,73,74,75
77 Fanouts: 78,79,80,81,82,83
77 FanIns: 71,72,73,74,75,76
78 Fanouts: 79,80,81,82,83,84,63
78 FanIns: 72,73,74,75,76,77
79 Fanouts: 80,81,82,83,84,63,85
79 FanIns: 73,74,75,76,77,78

80 Fanouts: 81,82,83,84,63,85,86
80 FanIns: 74,75,76,77,78,79
81 Fanouts: 82,83,84,63,85,86,87
81 FanIns: 75,76,77,78,79,80
83 Fanouts: 84,63,85,86,87,88,89
83 FanIns: 77,78,79,80,81,82
84 Fanouts: 85,86,87,88,89,90,63
84 FanIns: 78,79,80,81,82,83
85 Fanouts: 86,87,88,89,90,91
85 FanIns: 79,80,81,82,83,84
86 Fanouts: 87,88,89,90,91,92
86 FanIns: 80,81,82,83,84,85
87 Fanouts: 88,89,90,91,92,93
87 FanIns: 81,82,83,84,85,86
88 Fanouts: 89,90,91,92,93,94
88 FanIns: 82,83,84,85,86,87
89 Fanouts: 90,91,92,93,94,95
89 FanIns: 83,84,85,86,87,88
90 Fanouts: 91,92,93,94,95,96
90 FanIns: 84,85,86,87,88,89
91 Fanouts: 92,93,94,95,96,97
91 FanIns: 85,86,87,88,89,90
92 Fanouts: 93,94,95,96,97,98
92 FanIns: 86,87,88,89,90,91
93 Fanouts: 94,95,96,97,98,99
93 FanIns: 87,88,89,90,91,92
94 Fanouts: 95,96,97,98,99,100
94 FanIns: 88,89,90,91,92,93
95 Fanouts: 96,97,98,99,100,101
95 FanIns: 89,90,91,92,93,94
96 Fanouts: 97,98,99,100,101,102
96 FanIns: 90,91,92,93,94,95
97 Fanouts: 98,99,100,101,102,103
97 FanIns: 91,92,93,94,95,96
98 Fanouts: 99,100,101,102,103,104
98 FanIns: 92,93,94,95,96,97
100 Fanouts: NONE
100 FanIns: 94,95,96,97,98,99
101 Fanouts: NONE
101 FanIns: 95,96,97,98,99
102 Fanouts: NONE

102 FanIns: 96,97,98,99

103 Fanouts: NONE

103 FanIns: 97,98,99

104 Fanouts: NONE

104 FanIns: 98,99

105 Fanouts: NONE

105 FanIns: 99

File SnakeisNotBad.txt

Graph Type   = DIRECTED GRAPH

Num Vertices   = 105

Num Edges   = 610

Work done   = 715

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

BFS path   = 1 1 1 1 1 1 1 1 2 82 82 82 82 82 82 82 3 4 5 6 7 8 83 84 63 63 63 63 63 63 63 85 86 87 88 9 10 11 12 13 14 89 90 64 99 99 99 99 99 99 65 66 67 68 69 91 92 15 16 17 18 19 20 70 71 72 73 74 75 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56

1

1->2

1->82

1->3

1->4

1->5

1->6

1->7

1->2->8

1->82->83

1->82->84

1->82->63

1->82->85

1->82->86

1->82->87

1->82->88

1->3->9

1->4->10

1->5->11

1->6->12

1->7->13

1->2->8->14
1->82->83->89
1->82->84->90
1->82->63->64
1->82->63->99
1->82->63->65
1->82->63->66
1->82->63->67
1->82->63->68
1->82->63->69
1->82->85->91
1->82->86->92
1->82->87->93
1->82->88->94
1->3->9->15
1->4->10->16
1->5->11->17
1->6->12->18
1->7->13->19
1->2->8->14->20
1->82->83->89->95
1->82->84->90->96
1->82->63->64->70
1->82->63->99->100
1->82->63->99->101
1->82->63->99->102
1->82->63->99->103
1->82->63->99->104
1->82->63->99->105
1->82->63->65->71
1->82->63->66->72
1->82->63->67->73
1->82->63->68->74
1->82->63->69->75
1->82->85->91->97
1->82->86->92->98
1->3->9->15->21
1->4->10->16->22
1->5->11->17->23
1->6->12->18->24
1->7->13->19->25

1->2->8->14->20->26
1->82->63->64->70->76
1->82->63->65->71->77
1->82->63->66->72->78
1->82->63->67->73->79
1->82->63->68->74->80
1->82->63->69->75->81
1->3->9->15->21->27
1->4->10->16->22->28
1->5->11->17->23->29
1->6->12->18->24->30
1->7->13->19->25->31
1->2->8->14->20->26->32
1->3->9->15->21->27->33
1->4->10->16->22->28->34
1->5->11->17->23->29->35
1->6->12->18->24->30->36
1->7->13->19->25->31->37
1->2->8->14->20->26->32->38
1->3->9->15->21->27->33->39
1->4->10->16->22->28->34->40
1->5->11->17->23->29->35->41
1->6->12->18->24->30->36->42
1->7->13->19->25->31->37->43
1->2->8->14->20->26->32->38->44
1->3->9->15->21->27->33->39->45
1->4->10->16->22->28->34->40->46
1->5->11->17->23->29->35->41->47
1->6->12->18->24->30->36->42->48
1->7->13->19->25->31->37->43->49
1->2->8->14->20->26->32->38->44->50
1->3->9->15->21->27->33->39->45->51
1->4->10->16->22->28->34->40->46->52
1->5->11->17->23->29->35->41->47->53
1->6->12->18->24->30->36->42->48->54
1->7->13->19->25->31->37->43->49->55
1->2->8->14->20->26->32->38->44->50->56
1->3->9->15->21->27->33->39->45->51->57
1->4->10->16->22->28->34->40->46->52->58
1->5->11->17->23->29->35->41->47->53->59
1->6->12->18->24->30->36->42->48->54->60

1->7->13->19->25->31->37->43->49->55->61

1->2->8->14->20->26->32->38->44->50->56->62

GraphTest.java Ends

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Process finished with exit code 0