

```
1 C:\Users\Lenovo\AppData\Local\Microsoft\WindowsApps\
  python3.10.exe D:\AOS_ASSIGNMENT\AOS_ASSIGNMENT\
  rpctest\server.py
2 Server started. Waiting for initial setup...
3 Missile approaching at (3, 4) with impact radius 4
4
5 Commander died!
6 Election took place. New commander chosen: Soldier 11
7 Soldiers 3, 12 died due to the missile.
8 Checking status of commander: Soldier 11 (Alive: True
  )
9 Safe moves for Soldier 1: [(1, 2, 0), (1, 2, 1), (1,
  2, 2), (1, 3, 0), (1, 3, 2), (1, 4, 0), (1, 4, 1), (1
  , 4, 2)]
10 Safe moves for Soldier 2: [(2, 0, 8), (2, 0, 9), (2,
  1, 8), (2, 2, 8), (2, 2, 9)]
11 Safe moves for Soldier 5: [(5, 1, 0), (5, 1, 1), (5,
  2, 1), (5, 3, 0), (5, 3, 1)]
12 Safe moves for Soldier 6: [(6, 2, 0), (6, 2, 1), (6,
  2, 2), (6, 3, 0), (6, 3, 2), (6, 4, 0), (6, 4, 1), (6
  , 4, 2)]
13 Safe moves for Soldier 7: [(7, 0, 1), (7, 0, 3), (7,
  1, 1), (7, 1, 2), (7, 1, 3)]
14 Safe moves for Soldier 8: [(8, 0, 1), (8, 1, 0), (8,
  1, 1)]
15 Safe moves for Soldier 9: [(9, 1, 0), (9, 1, 1), (9,
  2, 1), (9, 3, 0), (9, 3, 1)]
16 Safe moves for Soldier 10: [(10, 8, 6), (10, 8, 7), (
  10, 8, 8), (10, 9, 6), (10, 9, 8)]
17 Safe moves for Soldier 11: [(11, 0, 1), (11, 1, 0), (
  11, 1, 1)]
18 Safe moves for Soldier 13: [(13, 8, 7), (13, 8, 8), (
  13, 8, 9), (13, 9, 7), (13, 9, 9)]
19 Safe moves for Soldier 14: [(14, 4, 2), (14, 4, 3), (
  14, 4, 4), (14, 5, 2), (14, 5, 4), (14, 6, 2), (14, 6
  , 3), (14, 6, 4)]
20 Safe moves for Soldier 15: [(15, 5, 2), (15, 5, 3), (
  15, 5, 4), (15, 6, 2), (15, 6, 4), (15, 7, 2), (15, 7
  , 3), (15, 7, 4)]
21
22 Soldiers:
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23 ID: 1, Position: (3, 1), Status: Alive, Role: Soldier
24 ID: 2, Position: (1, 9), Status: Alive, Role: Soldier
25 ID: 3, Position: (4, 5), Status: Dead, Role: Soldier
26 ID: 4, Position: (7, 0), Status: Alive, Role: Soldier
27 ID: 5, Position: (2, 0), Status: Alive, Role: Soldier
28 ID: 6, Position: (3, 1), Status: Alive, Role: Soldier
29 ID: 7, Position: (0, 2), Status: Alive, Role: Soldier
30 ID: 8, Position: (0, 0), Status: Alive, Role: Soldier
31 ID: 9, Position: (2, 0), Status: Alive, Role: Soldier
32 ID: 10, Position: (9, 7), Status: Alive, Role:
    Soldier
33 ID: 11, Position: (0, 0), Status: Alive, Role:
    Commander
34 ID: 12, Position: (4, 4), Status: Dead, Role: Soldier
35 ID: 13, Position: (9, 8), Status: Alive, Role:
    Soldier
36 ID: 14, Position: (5, 3), Status: Alive, Role:
    Soldier
37 ID: 15, Position: (6, 3), Status: Alive, Role:
    Soldier
38
39 Missile landed at: (3, 4) with impact radius: 4
40 Soldiers 3, 12 died due to the missile.
41 Missile approaching at (5, 4) with impact radius 2
42 Checking status of commander: Soldier 11 (Alive: True
    )
43 Safe moves for Soldier 1: [(1, 2, 0), (1, 2, 1), (1,
    2, 2), (1, 3, 0), (1, 3, 2), (1, 4, 0), (1, 4, 1), (1
    , 4, 2)]
44 Safe moves for Soldier 2: [(2, 0, 8), (2, 0, 9), (2,
    1, 8), (2, 2, 8), (2, 2, 9)]
45 Safe moves for Soldier 5: [(5, 1, 0), (5, 1, 1), (5,
    2, 1), (5, 3, 0), (5, 3, 1)]
46 Safe moves for Soldier 6: [(6, 2, 0), (6, 2, 1), (6,
    2, 2), (6, 3, 0), (6, 3, 2), (6, 4, 0), (6, 4, 1), (6
    , 4, 2)]
47 Safe moves for Soldier 7: [(7, 0, 1), (7, 0, 3), (7,
    1, 1), (7, 1, 2), (7, 1, 3)]
48 Safe moves for Soldier 8: [(8, 0, 1), (8, 1, 0), (8,
    1, 1)]
49 Safe moves for Soldier 9: [(9, 1, 0), (9, 1, 1), (9,

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49 2, 1), (9, 3, 0), (9, 3, 1)]
50 Safe moves for Soldier 10: [(10, 8, 6), (10, 8, 7), (
    10, 8, 8), (10, 9, 6), (10, 9, 8)]
51 Safe moves for Soldier 11: [(11, 0, 1), (11, 1, 0), (
    11, 1, 1)]
52 Safe moves for Soldier 13: [(13, 8, 7), (13, 8, 8), (
    13, 8, 9), (13, 9, 7), (13, 9, 9)]
53 Safe moves for Soldier 14: [(14, 4, 2), (14, 4, 3), (
    14, 4, 4), (14, 5, 2), (14, 5, 4), (14, 6, 2), (14, 6
    , 3), (14, 6, 4)]
54 Safe moves for Soldier 15: [(15, 5, 2), (15, 5, 3), (
    15, 5, 4), (15, 6, 2), (15, 6, 4), (15, 7, 2), (15, 7
    , 3), (15, 7, 4)]
55
56 Soldiers:
57 ID: 1, Position: (3, 1), Status: Alive, Role: Soldier
58 ID: 2, Position: (1, 9), Status: Alive, Role: Soldier
59 ID: 3, Position: (4, 5), Status: Dead, Role: Soldier
60 ID: 4, Position: (7, 0), Status: Alive, Role: Soldier
61 ID: 5, Position: (2, 0), Status: Alive, Role: Soldier
62 ID: 6, Position: (3, 1), Status: Alive, Role: Soldier
63 ID: 7, Position: (0, 2), Status: Alive, Role: Soldier
64 ID: 8, Position: (0, 0), Status: Alive, Role: Soldier
65 ID: 9, Position: (2, 0), Status: Alive, Role: Soldier
66 ID: 10, Position: (9, 7), Status: Alive, Role:
    Soldier
67 ID: 11, Position: (0, 0), Status: Alive, Role:
    Commander
68 ID: 12, Position: (4, 4), Status: Dead, Role: Soldier
69 ID: 13, Position: (9, 8), Status: Alive, Role:
    Soldier
70 ID: 14, Position: (5, 3), Status: Alive, Role:
    Soldier
71 ID: 15, Position: (6, 3), Status: Alive, Role:
    Soldier
72
73 Missile landed at: (5, 4) with impact radius: 2
74 Soldiers 3, 12 died due to the missile.
75 Missile approaching at (5, 4) with impact radius 1
76 Checking status of commander: Soldier 11 (Alive: True
    )
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77 Safe moves for Soldier 1: [(1, 2, 1), (1, 3, 0), (1
, 3, 2), (1, 4, 1)]
78 Safe moves for Soldier 2: [(2, 0, 9), (2, 1, 8), (2
, 2, 9)]
79 Safe moves for Soldier 5: [(5, 1, 0), (5, 2, 1), (5
, 3, 0)]
80 Safe moves for Soldier 6: [(6, 2, 1), (6, 3, 0), (6
, 3, 2), (6, 4, 1)]
81 Safe moves for Soldier 7: [(7, 0, 1), (7, 0, 3), (7
, 1, 2)]
82 Safe moves for Soldier 8: [(8, 0, 1), (8, 1, 0)]
83 Safe moves for Soldier 9: [(9, 1, 0), (9, 2, 1), (9
, 3, 0)]
84 Safe moves for Soldier 10: [(10, 8, 7), (10, 9, 6
), (10, 9, 8)]
85 Safe moves for Soldier 11: [(11, 0, 1), (11, 1, 0)]
86 Safe moves for Soldier 13: [(13, 8, 8), (13, 9, 7
), (13, 9, 9)]
87 Safe moves for Soldier 14: [(14, 4, 3), (14, 5, 2
), (14, 5, 4), (14, 6, 3)]
88 Safe moves for Soldier 15: [(15, 5, 3), (15, 6, 2
), (15, 6, 4), (15, 7, 3)]
89
90 Soldiers:
91 ID: 1, Position: (3, 1), Status: Alive, Role:
  Soldier
92 ID: 2, Position: (1, 9), Status: Alive, Role:
  Soldier
93 ID: 3, Position: (4, 5), Status: Dead, Role: Soldier
94 ID: 4, Position: (7, 0), Status: Alive, Role:
  Soldier
95 ID: 5, Position: (2, 0), Status: Alive, Role:
  Soldier
96 ID: 6, Position: (3, 1), Status: Alive, Role:
  Soldier
97 ID: 7, Position: (0, 2), Status: Alive, Role:
  Soldier
98 ID: 8, Position: (0, 0), Status: Alive, Role:
  Soldier
99 ID: 9, Position: (2, 0), Status: Alive, Role:
  Soldier
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100 ID: 10, Position: (9, 7), Status: Alive, Role:
    Soldier
101 ID: 11, Position: (0, 0), Status: Alive, Role:
    Commander
102 ID: 12, Position: (4, 4), Status: Dead, Role:
    Soldier
103 ID: 13, Position: (9, 8), Status: Alive, Role:
    Soldier
104 ID: 14, Position: (5, 3), Status: Alive, Role:
    Soldier
105 ID: 15, Position: (6, 3), Status: Alive, Role:
    Soldier
106
107 Missile landed at: (5, 4) with impact radius: 1
108 Soldiers 3, 12 died due to the missile.
109 Missile approaching at (4, 3) with impact radius 4
110
111 Commander died!
112 Election took place. New commander chosen: Soldier 1
113 Soldiers 5, 6, 9 died due to the missile.
114 Checking status of commander: Soldier 1 (Alive: True
    )
115 Safe moves for Soldier 1: [(1, 2, 0), (1, 2, 1), (1
    , 2, 2), (1, 3, 0), (1, 3, 2), (1, 4, 0), (1, 4, 1
    ), (1, 4, 2)]
116 Safe moves for Soldier 2: [(2, 0, 8), (2, 0, 9), (2
    , 1, 8), (2, 2, 8), (2, 2, 9)]
117 Safe moves for Soldier 7: [(7, 0, 1), (7, 0, 3), (7
    , 1, 1), (7, 1, 2), (7, 1, 3)]
118 Safe moves for Soldier 8: [(8, 0, 1), (8, 1, 0), (8
    , 1, 1)]
119 Safe moves for Soldier 10: [(10, 8, 6), (10, 8, 7
    ), (10, 8, 8), (10, 9, 6), (10, 9, 8)]
120 Safe moves for Soldier 13: [(13, 8, 7), (13, 8, 8
    ), (13, 8, 9), (13, 9, 7), (13, 9, 9)]
121 Safe moves for Soldier 14: [(14, 4, 2), (14, 4, 3
    ), (14, 4, 4), (14, 5, 2), (14, 5, 4), (14, 6, 2), (
    14, 6, 3), (14, 6, 4)]
122 Safe moves for Soldier 15: [(15, 5, 2), (15, 5, 3
    ), (15, 5, 4), (15, 6, 2), (15, 6, 4), (15, 7, 2), (
    15, 7, 3), (15, 7, 4)]
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123
124 Soldiers:
125 ID: 1, Position: (3, 1), Status: Alive, Role:
    Commander
126 ID: 2, Position: (1, 9), Status: Alive, Role:
    Soldier
127 ID: 3, Position: (4, 5), Status: Dead, Role: Soldier
128 ID: 4, Position: (7, 0), Status: Alive, Role:
    Soldier
129 ID: 5, Position: (2, 0), Status: Dead, Role: Soldier
130 ID: 6, Position: (3, 1), Status: Dead, Role: Soldier
131 ID: 7, Position: (0, 2), Status: Alive, Role:
    Soldier
132 ID: 8, Position: (0, 0), Status: Alive, Role:
    Soldier
133 ID: 9, Position: (2, 0), Status: Dead, Role: Soldier
134 ID: 10, Position: (9, 7), Status: Alive, Role:
    Soldier
135 ID: 11, Position: (0, 0), Status: Alive, Role:
    Soldier
136 ID: 12, Position: (4, 4), Status: Dead, Role:
    Soldier
137 ID: 13, Position: (9, 8), Status: Alive, Role:
    Soldier
138 ID: 14, Position: (5, 3), Status: Alive, Role:
    Soldier
139 ID: 15, Position: (6, 3), Status: Alive, Role:
    Soldier
140
141 Missile landed at: (4, 3) with impact radius: 4
142 Soldiers 3, 5, 6, 9, 12 died due to the missile.
143 Missile approaching at (5, 4) with impact radius 4
144
145 Commander died!
146 Election took place. New commander chosen: Soldier 2
147 Checking status of commander: Soldier 2 (Alive: True
    )
148 Safe moves for Soldier 2: [(2, 0, 8), (2, 0, 9), (2
    , 1, 8), (2, 2, 8), (2, 2, 9)]
149 Safe moves for Soldier 7: [(7, 0, 1), (7, 0, 3), (7
    , 1, 1), (7, 1, 2), (7, 1, 3)]
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150 Safe moves for Soldier 8: [(8, 0, 1), (8, 1, 0), (8, 1, 1)]
151 Safe moves for Soldier 10: [(10, 8, 6), (10, 8, 7), (10, 8, 8), (10, 9, 6), (10, 9, 8)]
152 Safe moves for Soldier 13: [(13, 8, 7), (13, 8, 8), (13, 8, 9), (13, 9, 7), (13, 9, 9)]
153 Safe moves for Soldier 14: [(14, 4, 2), (14, 4, 3), (14, 4, 4), (14, 5, 2), (14, 5, 4), (14, 6, 2), (14, 6, 3), (14, 6, 4)]
154 Safe moves for Soldier 15: [(15, 5, 2), (15, 5, 3), (15, 5, 4), (15, 6, 2), (15, 6, 4), (15, 7, 2), (15, 7, 3), (15, 7, 4)]
155
156 Soldiers:
157 ID: 1, Position: (3, 1), Status: Alive, Role: Soldier
158 ID: 2, Position: (1, 9), Status: Alive, Role: Commander
159 ID: 3, Position: (4, 5), Status: Dead, Role: Soldier
160 ID: 4, Position: (7, 0), Status: Alive, Role: Soldier
161 ID: 5, Position: (2, 0), Status: Dead, Role: Soldier
162 ID: 6, Position: (3, 1), Status: Dead, Role: Soldier
163 ID: 7, Position: (0, 2), Status: Alive, Role: Soldier
164 ID: 8, Position: (0, 0), Status: Alive, Role: Soldier
165 ID: 9, Position: (2, 0), Status: Dead, Role: Soldier
166 ID: 10, Position: (9, 7), Status: Alive, Role: Soldier
167 ID: 11, Position: (0, 0), Status: Alive, Role: Soldier
168 ID: 12, Position: (4, 4), Status: Dead, Role: Soldier
169 ID: 13, Position: (9, 8), Status: Alive, Role: Soldier
170 ID: 14, Position: (5, 3), Status: Alive, Role: Soldier
171 ID: 15, Position: (6, 3), Status: Alive, Role: Soldier
172
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173 Missile landed at: (5, 4) with impact radius: 4
174 Soldiers 3, 5, 6, 9, 12 died due to the missile.
175 Missile approaching at (3, 3) with impact radius 1
176 Checking status of commander: Soldier 2 (Alive: True
    )
177 Safe moves for Soldier 2: [(2, 0, 9), (2, 1, 8), (2
    , 2, 9)]
178 Safe moves for Soldier 7: [(7, 0, 1), (7, 0, 3), (7
    , 1, 2)]
179 Safe moves for Soldier 8: [(8, 0, 1), (8, 1, 0)]
180 Safe moves for Soldier 10: [(10, 8, 7), (10, 9, 6
    ), (10, 9, 8)]
181 Safe moves for Soldier 13: [(13, 8, 8), (13, 9, 7
    ), (13, 9, 9)]
182 Safe moves for Soldier 14: [(14, 4, 3), (14, 5, 2
    ), (14, 5, 4), (14, 6, 3)]
183 Safe moves for Soldier 15: [(15, 5, 3), (15, 6, 2
    ), (15, 6, 4), (15, 7, 3)]
184
185 Soldiers:
186 ID: 1, Position: (3, 1), Status: Alive, Role:
    Soldier
187 ID: 2, Position: (1, 9), Status: Alive, Role:
    Commander
188 ID: 3, Position: (4, 5), Status: Dead, Role: Soldier
189 ID: 4, Position: (7, 0), Status: Alive, Role:
    Soldier
190 ID: 5, Position: (2, 0), Status: Dead, Role: Soldier
191 ID: 6, Position: (3, 1), Status: Dead, Role: Soldier
192 ID: 7, Position: (0, 2), Status: Alive, Role:
    Soldier
193 ID: 8, Position: (0, 0), Status: Alive, Role:
    Soldier
194 ID: 9, Position: (2, 0), Status: Dead, Role: Soldier
195 ID: 10, Position: (9, 7), Status: Alive, Role:
    Soldier
196 ID: 11, Position: (0, 0), Status: Alive, Role:
    Soldier
197 ID: 12, Position: (4, 4), Status: Dead, Role:
    Soldier
198 ID: 13, Position: (9, 8), Status: Alive, Role:
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198 Soldier
199 ID: 14, Position: (5, 3), Status: Alive, Role:
    Soldier
200 ID: 15, Position: (6, 3), Status: Alive, Role:
    Soldier
201
202 Missile landed at: (3, 3) with impact radius: 1
203 Soldiers 12 died due to the missile.
204 Missile approaching at (4, 5) with impact radius 4
205
206 Commander died!
207 Election took place. New commander chosen: Soldier
    13
208 Checking status of commander: Soldier 13 (Alive:
    True)
209 Safe moves for Soldier 7: [(7, 0, 1), (7, 0, 3), (7
    , 1, 1), (7, 1, 2), (7, 1, 3)]
210 Safe moves for Soldier 8: [(8, 0, 1), (8, 1, 0), (8
    , 1, 1)]
211 Safe moves for Soldier 10: [(10, 8, 6), (10, 8, 7
    ), (10, 8, 8), (10, 9, 6), (10, 9, 8)]
212 Safe moves for Soldier 13: [(13, 8, 7), (13, 8, 8
    ), (13, 8, 9), (13, 9, 7), (13, 9, 9)]
213 Safe moves for Soldier 14: [(14, 4, 2), (14, 4, 3
    ), (14, 4, 4), (14, 5, 2), (14, 5, 4), (14, 6, 2), (
    14, 6, 3), (14, 6, 4)]
214 Safe moves for Soldier 15: [(15, 5, 2), (15, 5, 3
    ), (15, 5, 4), (15, 6, 2), (15, 6, 4), (15, 7, 2), (
    15, 7, 3), (15, 7, 4)]
215
216 Soldiers:
217 ID: 1, Position: (3, 1), Status: Alive, Role:
    Soldier
218 ID: 2, Position: (1, 9), Status: Alive, Role:
    Soldier
219 ID: 3, Position: (4, 5), Status: Dead, Role: Soldier
220 ID: 4, Position: (7, 0), Status: Alive, Role:
    Soldier
221 ID: 5, Position: (2, 0), Status: Dead, Role: Soldier
222 ID: 6, Position: (3, 1), Status: Dead, Role: Soldier
223 ID: 7, Position: (0, 2), Status: Alive, Role:
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223 Soldier
224 ID: 8, Position: (0, 0), Status: Alive, Role:
    Soldier
225 ID: 9, Position: (2, 0), Status: Dead, Role: Soldier
226 ID: 10, Position: (9, 7), Status: Alive, Role:
    Soldier
227 ID: 11, Position: (0, 0), Status: Alive, Role:
    Soldier
228 ID: 12, Position: (4, 4), Status: Dead, Role:
    Soldier
229 ID: 13, Position: (9, 8), Status: Alive, Role:
    Commander
230 ID: 14, Position: (5, 3), Status: Alive, Role:
    Soldier
231 ID: 15, Position: (6, 3), Status: Alive, Role:
    Soldier
232
233 Missile landed at: (4, 5) with impact radius: 4
234 Soldiers 3, 6, 12 died due to the missile.
235 Missile approaching at (5, 3) with impact radius 2
236 Checking status of commander: Soldier 13 (Alive:
    True)
237 Safe moves for Soldier 7: [(7, 0, 1), (7, 0, 3), (7
    , 1, 1), (7, 1, 2), (7, 1, 3)]
238 Safe moves for Soldier 8: [(8, 0, 1), (8, 1, 0), (8
    , 1, 1)]
239 Safe moves for Soldier 10: [(10, 8, 6), (10, 8, 7
    ), (10, 8, 8), (10, 9, 6), (10, 9, 8)]
240 Safe moves for Soldier 13: [(13, 8, 7), (13, 8, 8
    ), (13, 8, 9), (13, 9, 7), (13, 9, 9)]
241 Safe moves for Soldier 14: [(14, 4, 2), (14, 4, 3
    ), (14, 4, 4), (14, 5, 2), (14, 5, 4), (14, 6, 2), (
    14, 6, 3), (14, 6, 4)]
242 Safe moves for Soldier 15: [(15, 5, 2), (15, 5, 3
    ), (15, 5, 4), (15, 6, 2), (15, 6, 4), (15, 7, 2), (
    15, 7, 3), (15, 7, 4)]
243
244 Soldiers:
245 ID: 1, Position: (3, 1), Status: Alive, Role:
    Soldier
246 ID: 2, Position: (1, 9), Status: Alive, Role:
```

```
246 Soldier
247 ID: 3, Position: (4, 5), Status: Dead, Role: Soldier
248 ID: 4, Position: (7, 0), Status: Alive, Role:
    Soldier
249 ID: 5, Position: (2, 0), Status: Dead, Role: Soldier
250 ID: 6, Position: (3, 1), Status: Dead, Role: Soldier
251 ID: 7, Position: (0, 2), Status: Alive, Role:
    Soldier
252 ID: 8, Position: (0, 0), Status: Alive, Role:
    Soldier
253 ID: 9, Position: (2, 0), Status: Dead, Role: Soldier
254 ID: 10, Position: (9, 7), Status: Alive, Role:
    Soldier
255 ID: 11, Position: (0, 0), Status: Alive, Role:
    Soldier
256 ID: 12, Position: (4, 4), Status: Dead, Role:
    Soldier
257 ID: 13, Position: (9, 8), Status: Alive, Role:
    Commander
258 ID: 14, Position: (5, 3), Status: Alive, Role:
    Soldier
259 ID: 15, Position: (6, 3), Status: Alive, Role:
    Soldier
260
261 Missile landed at: (5, 3) with impact radius: 2
262 Soldiers 3, 6, 12 died due to the missile.
263 Battle lost! Less than or equal to 50% soldiers are
    alive.
264
265 Process finished with exit code 0
266
```