```
1 /Users/raven/git_repo/github/agv_codeB/.venv/bin/python /Users/raven/git_repo/
       qithub/aqv_codeB/B_solver.py
  2 {0: 1, 3: 1}
  3 {6: -1, 9: -1}
  4 {2: 0, 5: 0, 8: 0, 11: 0}
  5 \{(0, 3): (0, 1, 4), (0, 11): (0, 1, 2), (2, 0): (0, 1, 2), (3, 2): (0, 1, 2), (3, 2)\}
       6): (0, 1, 4), (5, 3): (0, 1, 2), (6, 5): (0, 1, 2), (6, 9): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0, 1, 4), (8, 6): (0,
       (9, 1, 2), (9, 0): (0, 1, 4), (9, 8): (0, 1, 2), (11, 9): (0, 1, 2)
  6 presolving:
  7 (round 1, fast) 13 del vars, 12 del conss, 0 add conss, 0 chg bounds, 0 chg
       sides, 0 chg coeffs, 0 upgd conss, 0 impls, 8 clgs
  8 (round 2, fast) 16 del vars, 16 del conss, 0 add conss, 0 chg bounds, 0 chg
       sides, 0 chg coeffs, 0 upgd conss, 0 impls, 6 clgs
  9 (round 3, exhaustive) 16 del vars, 22 del conss, 0 add conss, 0 chg bounds, 4 chg
       sides, 0 chg coeffs, 0 upgd conss, 0 impls, 6 clgs
10 (round 4, exhaustive) 16 del vars, 22 del conss, 0 add conss, 0 chg bounds, 4 chg
       sides, 0 chg coeffs, 2 upgd conss, 0 impls, 6 clgs
11 presolving (5 rounds: 5 fast, 3 medium, 3 exhaustive):
12 24 deleted vars, 24 deleted constraints, 0 added constraints, 0 tightened bounds
       , 0 added holes, 4 changed sides, 0 changed coefficients
13 0 implications, 0 cliques
14 transformed 1/1 original solutions to the transformed problem space
15 Presolving Time: 0.00
16
17 SCIP Status : problem is solved [optimal solution found]
18 Solving Time (sec) : 0.00
19 Solving Nodes
```

```
: +8.00000000000000e+00 (1 solutions)
20 Primal Bound
21 Dual Bound
                        : +8.000000000000e+00
22 Gap
                        : 0.00 %
23 Optimal value: 8.0
24 Solution:
25 \times 0_0_{11} = 1.0
26 \times 0_{11} = 1.0
27 \times 3_{3} = 1.0
28
29 Process finished with exit code 0
30
```