

```
1 /Users/raven/git_repo/github/agv_codeB/.venv/bin/python /Users/raven/git_repo/
  github/agv_codeB/B_solver.py
2 {2: 1, 24: 1}
3 {254: -1, 255: -1}
4 {1: 0, 3: 0, 4: 0, 5: 0, 6: 0, 7: 0, 8: 0, 9: 0, 10: 0, 11: 0, 12: 0, 13: 0, 14: 0
  , 15: 0, 16: 0, 17: 0, 18: 0, 19: 0, 20: 0, 21: 0, 22: 0, 23: 0, 25: 0, 26: 0, 27
  : 0, 28: 0, 29: 0, 30: 0, 31: 0, 32: 0, 33: 0, 34: 0, 35: 0, 36: 0, 37: 0, 38: 0,
  39: 0, 40: 0, 41: 0, 42: 0, 43: 0, 44: 0, 45: 0, 46: 0, 47: 0, 48: 0, 49: 0, 50: 0
  , 51: 0, 52: 0, 53: 0, 54: 0, 55: 0, 56: 0, 57: 0, 58: 0, 59: 0, 60: 0, 61: 0, 62
  : 0, 63: 0, 64: 0, 65: 0, 66: 0, 67: 0, 68: 0, 69: 0, 70: 0, 71: 0, 72: 0, 73: 0,
  74: 0, 75: 0, 76: 0, 77: 0, 78: 0, 79: 0, 80: 0, 81: 0, 82: 0, 83: 0, 84: 0, 85: 0
  , 86: 0, 87: 0, 88: 0, 89: 0, 90: 0, 91: 0, 92: 0, 93: 0, 94: 0, 95: 0, 96: 0, 97
  : 0, 98: 0, 99: 0, 100: 0, 101: 0, 102: 0, 103: 0, 104: 0, 105: 0, 106: 0, 107: 0
  , 108: 0, 109: 0, 110: 0, 111: 0, 112: 0, 113: 0, 114: 0, 115: 0, 116: 0, 117: 0,
  118: 0, 119: 0, 120: 0, 121: 0, 122: 0, 123: 0, 124: 0, 125: 0, 126: 0, 127: 0,
  128: 0, 129: 0, 130: 0, 131: 0, 132: 0, 133: 0, 134: 0, 135: 0, 136: 0, 137: 0,
  138: 0, 139: 0, 140: 0, 141: 0, 142: 0, 143: 0, 144: 0, 145: 0, 146: 0, 147: 0,
  148: 0, 149: 0, 150: 0, 151: 0, 152: 0, 153: 0, 154: 0, 155: 0, 156: 0, 157: 0,
  158: 0, 159: 0, 160: 0, 161: 0, 162: 0, 163: 0, 164: 0, 165: 0, 166: 0, 167: 0,
  168: 0, 169: 0, 170: 0, 171: 0, 172: 0, 173: 0, 174: 0, 175: 0, 176: 0, 177: 0,
  178: 0, 179: 0, 180: 0, 181: 0, 182: 0, 183: 0, 184: 0, 185: 0, 186: 0, 187: 0,
  188: 0, 189: 0, 190: 0, 191: 0, 192: 0, 193: 0, 194: 0, 195: 0, 196: 0, 197: 0,
  198: 0, 199: 0, 200: 0, 201: 0, 202: 0, 203: 0, 204: 0, 205: 0, 206: 0, 207: 0,
  208: 0, 209: 0, 210: 0, 211: 0, 212: 0, 213: 0, 214: 0, 215: 0, 216: 0, 217: 0,
  218: 0, 219: 0, 220: 0, 221: 0, 222: 0, 223: 0, 224: 0, 225: 0, 226: 0, 227: 0,
  228: 0, 229: 0, 230: 0, 231: 0, 232: 0, 233: 0, 234: 0, 235: 0, 236: 0, 237: 0,
  238: 0, 239: 0, 240: 0, 241: 0, 242: 0, 243: 0, 244: 0, 245: 0, 246: 0, 247: 0,
```

```

4 248: 0, 249: 0, 250: 0, 251: 0, 252: 0, 253: 0}
5 {(1, 2): (0, 1, 17), (1, 24): (0, 1, 10), (2, 3): (0, 1, 17), (2, 22): (0, 1, 17
), (2, 25): (0, 1, 10), (3, 4): (0, 1, 17), (3, 26): (0, 1, 10), (4, 5): (0, 1, 17
), (4, 20): (0, 1, 17), (4, 27): (0, 1, 10), (5, 6): (0, 1, 17), (5, 28): (0, 1,
10), (6, 7): (0, 1, 17), (6, 18): (0, 1, 17), (6, 29): (0, 1, 10), (7, 8): (0, 1,
17), (7, 18): (0, 1, 17), (7, 30): (0, 1, 10), (8, 9): (0, 1, 17), (8, 31): (0, 1
, 10), (9, 10): (0, 1, 17), (9, 16): (0, 1, 17), (9, 32): (0, 1, 10), (10, 11): (0
, 1, 17), (10, 33): (0, 1, 10), (11, 12): (0, 1, 17), (11, 14): (0, 1, 17), (11,
34): (0, 1, 10), (12, 1): (0, 1, 17), (12, 35): (0, 1, 10), (13, 12): (0, 1, 17
), (13, 14): (0, 1, 17), (13, 36): (0, 1, 10), (14, 15): (0, 1, 17), (14, 37): (0
, 1, 10), (15, 10): (0, 1, 17), (15, 16): (0, 1, 17), (15, 38): (0, 1, 10), (16,
17): (0, 1, 17), (16, 39): (0, 1, 10), (16, 254): (0, 1, 70), (17, 8): (0, 1, 17
), (17, 18): (0, 1, 17), (17, 40): (0, 1, 10), (17, 255): (0, 1, 70), (18, 19): (0
, 1, 17), (18, 41): (0, 1, 10), (19, 5): (0, 1, 17), (19, 20): (0, 1, 17), (19, 42
): (0, 1, 10), (20, 21): (0, 1, 17), (20, 43): (0, 1, 10), (21, 3): (0, 1, 17), (
21, 22): (0, 1, 17), (21, 44): (0, 1, 10), (22, 23): (0, 1, 17), (22, 45): (0, 1,
10), (23, 1): (0, 1, 17), (23, 13): (0, 1, 17), (23, 46): (0, 1, 10), (24, 25): (0
, 1, 17), (24, 47): (0, 1, 10), (25, 26): (0, 1, 17), (25, 45): (0, 1, 17), (25,
48): (0, 1, 10), (26, 27): (0, 1, 17), (26, 49): (0, 1, 10), (27, 28): (0, 1, 17
), (27, 43): (0, 1, 17), (27, 50): (0, 1, 10), (28, 29): (0, 1, 17), (28, 51): (0
, 1, 10), (29, 30): (0, 1, 17), (29, 41): (0, 1, 17), (29, 52): (0, 1, 10), (30,
31): (0, 1, 17), (30, 41): (0, 1, 17), (30, 53): (0, 1, 10), (31, 32): (0, 1, 17
), (31, 54): (0, 1, 10), (32, 33): (0, 1, 17), (32, 39): (0, 1, 17), (32, 55): (0
, 1, 10), (33, 34): (0, 1, 17), (33, 56): (0, 1, 10), (34, 35): (0, 1, 17), (34,
37): (0, 1, 17), (34, 57): (0, 1, 10), (35, 24): (0, 1, 17), (35, 58): (0, 1, 10
), (36, 35): (0, 1, 17), (36, 37): (0, 1, 17), (36, 59): (0, 1, 10), (37, 38): (0
, 1, 17), (37, 60): (0, 1, 10), (38, 33): (0, 1, 17), (38, 39): (0, 1, 17), (38,

```

5 61): (0, 1, 10), (39, 40): (0, 1, 17), (39, 62): (0, 1, 10), (39, 254): (0, 1, 60), (40, 31): (0, 1, 17), (40, 41): (0, 1, 17), (40, 63): (0, 1, 10), (40, 255): (0, 1, 60), (41, 42): (0, 1, 17), (41, 64): (0, 1, 10), (42, 28): (0, 1, 17), (42, 43): (0, 1, 17), (42, 65): (0, 1, 10), (43, 44): (0, 1, 17), (43, 66): (0, 1, 10), (44, 26): (0, 1, 17), (44, 45): (0, 1, 17), (44, 67): (0, 1, 10), (45, 46): (0, 1, 17), (45, 68): (0, 1, 10), (46, 24): (0, 1, 17), (46, 36): (0, 1, 17), (46, 69): (0, 1, 10), (47, 48): (0, 1, 17), (47, 70): (0, 1, 10), (48, 49): (0, 1, 17), (48, 68): (0, 1, 17), (48, 71): (0, 1, 10), (49, 50): (0, 1, 17), (49, 72): (0, 1, 10), (50, 51): (0, 1, 17), (50, 66): (0, 1, 17), (50, 73): (0, 1, 10), (51, 52): (0, 1, 17), (51, 74): (0, 1, 10), (52, 53): (0, 1, 17), (52, 64): (0, 1, 17), (52, 75): (0, 1, 10), (53, 54): (0, 1, 17), (53, 64): (0, 1, 17), (53, 76): (0, 1, 10), (54, 55): (0, 1, 17), (54, 77): (0, 1, 10), (55, 56): (0, 1, 17), (55, 62): (0, 1, 17), (55, 78): (0, 1, 10), (56, 57): (0, 1, 17), (56, 79): (0, 1, 10), (57, 58): (0, 1, 17), (57, 60): (0, 1, 17), (57, 80): (0, 1, 10), (58, 47): (0, 1, 17), (58, 81): (0, 1, 10), (59, 58): (0, 1, 17), (59, 60): (0, 1, 17), (59, 82): (0, 1, 10), (60, 61): (0, 1, 17), (60, 83): (0, 1, 10), (61, 56): (0, 1, 17), (61, 62): (0, 1, 17), (61, 84): (0, 1, 10), (62, 63): (0, 1, 17), (62, 85): (0, 1, 10), (62, 254): (0, 1, 50), (63, 54): (0, 1, 17), (63, 64): (0, 1, 17), (63, 86): (0, 1, 10), (63, 255): (0, 1, 50), (64, 65): (0, 1, 17), (64, 87): (0, 1, 10), (65, 51): (0, 1, 17), (65, 66): (0, 1, 17), (65, 88): (0, 1, 10), (66, 67): (0, 1, 17), (66, 89): (0, 1, 10), (67, 49): (0, 1, 17), (67, 68): (0, 1, 17), (67, 90): (0, 1, 10), (68, 69): (0, 1, 17), (68, 91): (0, 1, 10), (69, 47): (0, 1, 17), (69, 59): (0, 1, 17), (69, 92): (0, 1, 10), (70, 71): (0, 1, 17), (70, 93): (0, 1, 10), (71, 72): (0, 1, 17), (71, 91): (0, 1, 17), (71, 94): (0, 1, 10), (72, 73): (0, 1, 17), (72, 95): (0, 1, 10), (73, 74): (0, 1, 17), (73, 89): (0, 1, 17), (73, 96): (0, 1, 10), (74, 75): (0, 1, 17), (74, 97): (0, 1, 10), (75, 76): (0, 1, 17), (75, 87): (0, 1, 17), (75, 98): (0, 1, 10), (76, 77): (0, 1, 17), (76,

5 87): (0, 1, 17), (76, 99): (0, 1, 10), (77, 78): (0, 1, 17), (77, 100): (0, 1, 10), (78, 79): (0, 1, 17), (78, 85): (0, 1, 17), (78, 101): (0, 1, 10), (79, 80): (0, 1, 17), (79, 102): (0, 1, 10), (80, 81): (0, 1, 17), (80, 83): (0, 1, 17), (80, 103): (0, 1, 10), (81, 70): (0, 1, 17), (81, 104): (0, 1, 10), (82, 81): (0, 1, 17), (82, 83): (0, 1, 17), (82, 105): (0, 1, 10), (83, 84): (0, 1, 17), (83, 106): (0, 1, 10), (84, 79): (0, 1, 17), (84, 85): (0, 1, 17), (84, 107): (0, 1, 10), (85, 86): (0, 1, 17), (85, 108): (0, 1, 10), (85, 254): (0, 1, 40), (86, 77): (0, 1, 17), (86, 87): (0, 1, 17), (86, 109): (0, 1, 10), (86, 255): (0, 1, 40), (87, 88): (0, 1, 17), (87, 110): (0, 1, 10), (88, 74): (0, 1, 17), (88, 89): (0, 1, 17), (88, 111): (0, 1, 10), (89, 90): (0, 1, 17), (89, 112): (0, 1, 10), (90, 72): (0, 1, 17), (90, 91): (0, 1, 17), (90, 113): (0, 1, 10), (91, 92): (0, 1, 17), (91, 114): (0, 1, 10), (92, 70): (0, 1, 17), (92, 82): (0, 1, 17), (92, 115): (0, 1, 10), (93, 94): (0, 1, 17), (93, 116): (0, 1, 10), (94, 95): (0, 1, 17), (94, 114): (0, 1, 17), (94, 117): (0, 1, 10), (95, 96): (0, 1, 17), (95, 118): (0, 1, 10), (96, 97): (0, 1, 17), (96, 112): (0, 1, 17), (96, 119): (0, 1, 10), (97, 98): (0, 1, 17), (97, 120): (0, 1, 10), (98, 99): (0, 1, 17), (98, 110): (0, 1, 17), (98, 121): (0, 1, 10), (99, 100): (0, 1, 17), (99, 110): (0, 1, 17), (99, 122): (0, 1, 10), (100, 101): (0, 1, 17), (100, 123): (0, 1, 10), (101, 102): (0, 1, 17), (101, 108): (0, 1, 17), (101, 124): (0, 1, 10), (102, 103): (0, 1, 17), (102, 125): (0, 1, 10), (103, 104): (0, 1, 17), (103, 106): (0, 1, 17), (103, 126): (0, 1, 10), (104, 93): (0, 1, 17), (104, 127): (0, 1, 10), (105, 104): (0, 1, 17), (105, 106): (0, 1, 17), (105, 128): (0, 1, 10), (106, 107): (0, 1, 17), (106, 129): (0, 1, 10), (107, 102): (0, 1, 17), (107, 108): (0, 1, 17), (107, 130): (0, 1, 10), (108, 109): (0, 1, 17), (108, 131): (0, 1, 10), (108, 254): (0, 1, 30), (109, 100): (0, 1, 17), (109, 110): (0, 1, 17), (109, 132): (0, 1, 10), (109, 255): (0, 1, 30), (110, 111): (0, 1, 17), (110, 133): (0, 1, 10), (111, 97): (0, 1, 17), (111, 112): (0, 1, 17), (111, 134): (0, 1, 10), (112, 113): (0, 1, 17), (112, 135): (0,

5 1, 10), (113, 95): (0, 1, 17), (113, 114): (0, 1, 17), (113, 136): (0, 1, 10), (114, 115): (0, 1, 17), (114, 137): (0, 1, 10), (115, 93): (0, 1, 17), (115, 105): (0, 1, 17), (115, 138): (0, 1, 10), (116, 117): (0, 1, 17), (116, 139): (0, 1, 10), (117, 118): (0, 1, 17), (117, 137): (0, 1, 17), (117, 140): (0, 1, 10), (118, 119): (0, 1, 17), (118, 141): (0, 1, 10), (119, 120): (0, 1, 17), (119, 135): (0, 1, 17), (119, 142): (0, 1, 10), (120, 121): (0, 1, 17), (120, 143): (0, 1, 10), (121, 122): (0, 1, 17), (121, 133): (0, 1, 17), (121, 144): (0, 1, 10), (122, 123): (0, 1, 17), (122, 133): (0, 1, 17), (122, 145): (0, 1, 10), (123, 124): (0, 1, 17), (123, 146): (0, 1, 10), (124, 125): (0, 1, 17), (124, 131): (0, 1, 17), (124, 147): (0, 1, 10), (125, 126): (0, 1, 17), (125, 148): (0, 1, 10), (126, 127): (0, 1, 17), (126, 129): (0, 1, 17), (126, 149): (0, 1, 10), (127, 116): (0, 1, 17), (127, 150): (0, 1, 10), (128, 127): (0, 1, 17), (128, 129): (0, 1, 17), (128, 151): (0, 1, 10), (129, 130): (0, 1, 17), (129, 152): (0, 1, 10), (130, 125): (0, 1, 17), (130, 131): (0, 1, 17), (130, 153): (0, 1, 10), (131, 132): (0, 1, 17), (131, 154): (0, 1, 10), (131, 254): (0, 1, 20), (132, 123): (0, 1, 17), (132, 133): (0, 1, 17), (132, 155): (0, 1, 10), (132, 255): (0, 1, 20), (133, 134): (0, 1, 17), (133, 156): (0, 1, 10), (134, 120): (0, 1, 17), (134, 135): (0, 1, 17), (134, 157): (0, 1, 10), (135, 136): (0, 1, 17), (135, 158): (0, 1, 10), (136, 118): (0, 1, 17), (136, 137): (0, 1, 17), (136, 159): (0, 1, 10), (137, 138): (0, 1, 17), (137, 160): (0, 1, 10), (138, 116): (0, 1, 17), (138, 128): (0, 1, 17), (138, 161): (0, 1, 10), (139, 140): (0, 1, 17), (139, 162): (0, 1, 10), (140, 141): (0, 1, 17), (140, 160): (0, 1, 17), (140, 163): (0, 1, 10), (141, 142): (0, 1, 17), (141, 164): (0, 1, 10), (142, 143): (0, 1, 17), (142, 158): (0, 1, 17), (142, 165): (0, 1, 10), (143, 144): (0, 1, 17), (143, 166): (0, 1, 10), (144, 145): (0, 1, 17), (144, 156): (0, 1, 17), (144, 167): (0, 1, 10), (145, 146): (0, 1, 17), (145, 156): (0, 1, 17), (145, 168): (0, 1, 10), (146, 147): (0, 1, 17), (146, 169): (0, 1, 10), (147, 148): (0, 1, 17), (147, 154): (0, 1, 17), (147, 170): (0, 1,

5 10), (148, 149): (0, 1, 17), (148, 171): (0, 1, 10), (149, 150): (0, 1, 17), (149, 152): (0, 1, 17), (149, 172): (0, 1, 10), (150, 139): (0, 1, 17), (150, 173): (0, 1, 10), (151, 150): (0, 1, 17), (151, 152): (0, 1, 17), (151, 174): (0, 1, 10), (152, 153): (0, 1, 17), (152, 175): (0, 1, 10), (153, 148): (0, 1, 17), (153, 154): (0, 1, 17), (153, 176): (0, 1, 10), (154, 155): (0, 1, 17), (154, 177): (0, 1, 10), (154, 254): (0, 1, 10), (155, 146): (0, 1, 17), (155, 156): (0, 1, 17), (155, 178): (0, 1, 10), (155, 255): (0, 1, 10), (156, 157): (0, 1, 17), (156, 179): (0, 1, 10), (157, 143): (0, 1, 17), (157, 158): (0, 1, 17), (157, 180): (0, 1, 10), (158, 159): (0, 1, 17), (158, 181): (0, 1, 10), (159, 141): (0, 1, 17), (159, 160): (0, 1, 17), (159, 182): (0, 1, 10), (160, 161): (0, 1, 17), (160, 183): (0, 1, 10), (161, 139): (0, 1, 17), (161, 151): (0, 1, 17), (161, 184): (0, 1, 10), (162, 163): (0, 1, 17), (162, 185): (0, 1, 10), (163, 164): (0, 1, 17), (163, 183): (0, 1, 17), (163, 186): (0, 1, 10), (164, 165): (0, 1, 17), (164, 187): (0, 1, 10), (165, 166): (0, 1, 17), (165, 181): (0, 1, 17), (165, 188): (0, 1, 10), (166, 167): (0, 1, 17), (166, 189): (0, 1, 10), (167, 168): (0, 1, 17), (167, 179): (0, 1, 17), (167, 190): (0, 1, 10), (168, 169): (0, 1, 17), (168, 179): (0, 1, 17), (168, 191): (0, 1, 10), (169, 170): (0, 1, 17), (169, 192): (0, 1, 10), (170, 171): (0, 1, 17), (170, 177): (0, 1, 17), (170, 193): (0, 1, 10), (171, 172): (0, 1, 17), (171, 194): (0, 1, 10), (172, 173): (0, 1, 17), (172, 175): (0, 1, 17), (172, 195): (0, 1, 10), (173, 162): (0, 1, 17), (173, 196): (0, 1, 10), (174, 173): (0, 1, 17), (174, 175): (0, 1, 17), (174, 197): (0, 1, 10), (175, 176): (0, 1, 17), (175, 198): (0, 1, 10), (176, 171): (0, 1, 17), (176, 177): (0, 1, 17), (176, 199): (0, 1, 10), (177, 178): (0, 1, 17), (177, 200): (0, 1, 10), (177, 254): (0, 1, 0), (178, 169): (0, 1, 17), (178, 179): (0, 1, 17), (178, 201): (0, 1, 10), (178, 255): (0, 1, 0), (179, 180): (0, 1, 17), (179, 202): (0, 1, 10), (180, 166): (0, 1, 17), (180, 181): (0, 1, 17), (180, 203): (0, 1, 10), (181, 182): (0, 1, 17), (181, 204): (0, 1, 10), (182, 164): (0, 1, 17), (182, 183): (0, 1, 17), (

5 182, 205): (0, 1, 10), (183, 184): (0, 1, 17), (183, 206): (0, 1, 10), (184, 162): (0, 1, 17), (184, 174): (0, 1, 17), (184, 207): (0, 1, 10), (185, 186): (0, 1, 17), (185, 208): (0, 1, 10), (186, 187): (0, 1, 17), (186, 206): (0, 1, 17), (186, 209): (0, 1, 10), (187, 188): (0, 1, 17), (187, 210): (0, 1, 10), (188, 189): (0, 1, 17), (188, 204): (0, 1, 17), (188, 211): (0, 1, 10), (189, 190): (0, 1, 17), (189, 212): (0, 1, 10), (190, 191): (0, 1, 17), (190, 202): (0, 1, 17), (190, 213): (0, 1, 10), (191, 192): (0, 1, 17), (191, 202): (0, 1, 17), (191, 214): (0, 1, 10), (192, 193): (0, 1, 17), (192, 215): (0, 1, 10), (193, 194): (0, 1, 17), (193, 200): (0, 1, 17), (193, 216): (0, 1, 10), (194, 195): (0, 1, 17), (194, 217): (0, 1, 10), (195, 196): (0, 1, 17), (195, 198): (0, 1, 17), (195, 218): (0, 1, 10), (196, 185): (0, 1, 17), (196, 219): (0, 1, 10), (197, 196): (0, 1, 17), (197, 198): (0, 1, 17), (197, 220): (0, 1, 10), (198, 199): (0, 1, 17), (198, 221): (0, 1, 10), (199, 194): (0, 1, 17), (199, 200): (0, 1, 17), (199, 222): (0, 1, 10), (200, 201): (0, 1, 17), (200, 223): (0, 1, 10), (200, 254): (0, 1, 0), (201, 192): (0, 1, 17), (201, 202): (0, 1, 17), (201, 224): (0, 1, 10), (201, 255): (0, 1, 0), (202, 203): (0, 1, 17), (202, 225): (0, 1, 10), (203, 189): (0, 1, 17), (203, 204): (0, 1, 17), (203, 226): (0, 1, 10), (204, 205): (0, 1, 17), (204, 227): (0, 1, 10), (205, 187): (0, 1, 17), (205, 206): (0, 1, 17), (205, 228): (0, 1, 10), (206, 207): (0, 1, 17), (206, 229): (0, 1, 10), (207, 185): (0, 1, 17), (207, 197): (0, 1, 17), (207, 230): (0, 1, 10), (208, 209): (0, 1, 17), (208, 231): (0, 1, 10), (209, 210): (0, 1, 17), (209, 229): (0, 1, 17), (209, 232): (0, 1, 10), (210, 211): (0, 1, 17), (210, 233): (0, 1, 10), (211, 212): (0, 1, 17), (211, 227): (0, 1, 17), (211, 234): (0, 1, 10), (212, 213): (0, 1, 17), (212, 235): (0, 1, 10), (213, 214): (0, 1, 17), (213, 225): (0, 1, 17), (213, 236): (0, 1, 10), (214, 215): (0, 1, 17), (214, 225): (0, 1, 17), (214, 237): (0, 1, 10), (215, 216): (0, 1, 17), (215, 238): (0, 1, 10), (216, 217): (0, 1, 17), (216, 223): (0, 1, 17), (216, 239): (0, 1, 10), (217, 218): (0, 1, 17), (217, 240): (0, 1, 10), (218

```

5 , 219): (0, 1, 17), (218, 221): (0, 1, 17), (218, 241): (0, 1, 10), (219, 208): (0
, 1, 17), (219, 242): (0, 1, 10), (220, 219): (0, 1, 17), (220, 221): (0, 1, 17
), (220, 243): (0, 1, 10), (221, 222): (0, 1, 17), (221, 244): (0, 1, 10), (222,
217): (0, 1, 17), (222, 223): (0, 1, 17), (222, 245): (0, 1, 10), (223, 224): (0,
1, 17), (223, 246): (0, 1, 10), (223, 254): (0, 1, 10), (224, 215): (0, 1, 17), (
224, 225): (0, 1, 17), (224, 247): (0, 1, 10), (224, 255): (0, 1, 10), (225, 226
): (0, 1, 17), (225, 248): (0, 1, 10), (226, 212): (0, 1, 17), (226, 227): (0, 1,
17), (226, 249): (0, 1, 10), (227, 228): (0, 1, 17), (227, 250): (0, 1, 10), (228
, 210): (0, 1, 17), (228, 229): (0, 1, 17), (228, 251): (0, 1, 10), (229, 230): (0
, 1, 17), (229, 252): (0, 1, 10), (230, 208): (0, 1, 17), (230, 220): (0, 1, 17
), (230, 253): (0, 1, 10), (231, 232): (0, 1, 17), (232, 233): (0, 1, 17), (232,
252): (0, 1, 17), (233, 234): (0, 1, 17), (234, 235): (0, 1, 17), (234, 250): (0,
1, 17), (235, 236): (0, 1, 17), (236, 237): (0, 1, 17), (236, 248): (0, 1, 17), (
237, 238): (0, 1, 17), (237, 248): (0, 1, 17), (238, 239): (0, 1, 17), (239, 240
): (0, 1, 17), (239, 246): (0, 1, 17), (240, 241): (0, 1, 17), (241, 242): (0, 1,
17), (241, 244): (0, 1, 17), (242, 231): (0, 1, 17), (243, 242): (0, 1, 17), (243
, 244): (0, 1, 17), (244, 245): (0, 1, 17), (245, 240): (0, 1, 17), (245, 246): (0
, 1, 17), (246, 247): (0, 1, 17), (247, 238): (0, 1, 17), (247, 248): (0, 1, 17
), (248, 249): (0, 1, 17), (249, 235): (0, 1, 17), (249, 250): (0, 1, 17), (250,
251): (0, 1, 17), (251, 233): (0, 1, 17), (251, 252): (0, 1, 17), (252, 253): (0,
1, 17), (253, 231): (0, 1, 17), (253, 243): (0, 1, 17)}

```

6 presolving:

7 (round 1, fast) 1 del vars, 1 del conss, 0 add conss, 0 chg bounds, 0 chg  
sides, 0 chg coeffs, 0 upgd conss, 0 impls, 682 clqs

8 (round 2, exhaustive) 1 del vars, 1 del conss, 0 add conss, 0 chg bounds, 0 chg  
sides, 0 chg coeffs, 682 upgd conss, 0 impls, 682 clqs

9 (0.1s) probing: 770/1269 (60.7%) - 0 fixings, 0 aggregations, 352 implications



```

9 , 0 bound changes
10 (0.1s) probing aborted: 50/50 successive totally useless probings
11 (0.1s) symmetry computation started: requiring (bin +, int +, cont +), (fixed:
    bin -, int -, cont -)
12 (0.1s) no symmetry present (symcode time: 0.00)
13 presolving (3 rounds: 3 fast, 2 medium, 2 exhaustive):
14 1 deleted vars, 1 deleted constraints, 0 added constraints, 0 tightened bounds, 0
    added holes, 0 changed sides, 0 changed coefficients
15 0 implications, 1034 cliques
16 presolved problem has 1269 variables (1269 bin, 0 int, 0 impl, 0 cont) and 1140
    constraints
17 682 constraints of type <setppc>
18 458 constraints of type <linear>
19 transformed objective value is always integral (scale: 1)
20 Presolving Time: 0.05
21
22 time | node | left | LP iter|LP it/n|mem/heur|mdpt |vars |cons |rows |cuts |sepa
    |confs|strbr| dualbound | primalbound | gap | compl.
23 * 0.1s| 1 | 0 | 311 | - | LP | 0 |1269 |1173 |1140 | 0 | 0
    | 32 | 0 | 3.680000e+02 | 3.680000e+02 | 0.00%| unknown
24 0.1s| 1 | 0 | 311 | - | 13M | 0 |1269 |1173 |1140 | 0 | 0
    | 32 | 0 | 3.680000e+02 | 3.680000e+02 | 0.00%| unknown
25
26 SCIP Status : problem is solved [optimal solution found]
27 Solving Time (sec) : 0.07
28 Solving Nodes : 1
29 Primal Bound : +3.6800000000000000e+02 (1 solutions)

```

```
30 Dual Bound          : +3.680000000000000e+02
31 Gap                  : 0.00 %
32 Optimal value: 368.0
33 Solution:
34 x2_2_22 = 1.0
35 x2_13_14 = 1.0
36 x2_14_15 = 1.0
37 x2_15_16 = 1.0
38 x2_16_17 = 1.0
39 x2_17_255 = 1.0
40 x2_22_23 = 1.0
41 x2_23_13 = 1.0
42 x24_24_25 = 1.0
43 x24_25_48 = 1.0
44 x24_48_71 = 1.0
45 x24_71_94 = 1.0
46 x24_94_117 = 1.0
47 x24_117_140 = 1.0
48 x24_140_163 = 1.0
49 x24_163_183 = 1.0
50 x24_174_175 = 1.0
51 x24_175_176 = 1.0
52 x24_176_177 = 1.0
53 x24_177_254 = 1.0
54 x24_183_184 = 1.0
55 x24_184_174 = 1.0
56
```

57 Process finished with exit code 0

58