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### Modelling with cellular automata: problem solving environments and multidimensional applications

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# Appendix A. Sample Classes of Structures Generated by 1D Binary Cellular Automata from a Single Seed

## A.1 Nontrivial E-classes

Each item represents a non-trivial class of invariance as above. Class members are represented by the numbers of transition functions. Classes are sorted by the minimal number of the contained transition function.

1. {0, 8, 32, 40, 64, 72, 96, 104, 128, 136, 160, 168, 192, 200, 224, 232}
2. {1, 33}
3. {2, 10, 34, 42, 66, 74, 98, 106, 130, 138, 162, 170, 194, 202, 226, 234}
4. {3, 35}
5. {4, 12, 36, 44, 68, 76, 100, 108, 132, 140, 164, 172, 196, 204, 228, 236}
6. {6, 38, 134, 166}
7. {7, 19, 21, 23, 31, 55, 63, 87, 95, 119, 127}
8. {11, 43, 47}
9. {14, 46, 142, 174}
10. {16, 24, 48, 56, 80, 88, 112, 120, 144, 152, 176, 184, 208, 216, 240, 248}
11. {17, 49}
12. {18, 26, 82, 90, 146, 154, 210, 218}
13. {20, 52, 148, 180}
14. {28, 156}
15. {50, 58, 114, 122, 178, 186, 242, 250}
16. {70, 198}

17. {81, 113, 117}
18. {84, 116, 212, 244}
19. {129, 161}
20. {139, 171}
21. {151, 159, 183, 191, 215, 223, 233, 235, 237, 239, 247, 249, 251, 253, 255}
22. {173, 189}
23. {203, 217, 219}
24. {206, 238}
25. {209, 241}
26. {220, 252}
27. {222, 254}
28. {229, 231}

## A.2 EIMO-classes

Class members are represented by the numbers of transition functions. Classes are sorted by the minimal number of the contained transition function:

1. {0, 8, 32, 40, 64, 72, 96, 104, 128, 136, 151, 159, 160, 168, 183, 191, 192, 200, 215, 223, 224, 232, 235, 237, 239, 247, 249, 251, 253, 255}
2. {1, 33, 123}
3. {2, 10, 16, 24, 34, 42, 48, 56, 66, 74, 80, 88, 98, 106, 112, 120, 130, 138, 144, 152, 162, 170, 173, 175, 176, 184, 187, 189, 194, 202, 208, 216, 226, 229, 231, 234, 240, 243, 245, 248}
4. {3, 17, 35, 49, 59, 115}
5. {4, 12, 36, 44, 68, 76, 100, 108, 132, 140, 164, 172, 196, 203, 204, 207, 217, 219, 221, 228, 236}
6. {5}
7. {6, 20, 38, 52, 134, 148, 155, 166, 180, 211}
8. {7, 19, 21, 23, 31, 55, 63, 87, 95, 119, 127}
9. {9, 65, 111, 125}
10. {11, 43, 47, 81, 113, 117}

11. {13, 69, 79, 93}
12. {14, 46, 84, 116, 139, 142, 143, 171, 174, 209, 212, 213, 241, 244}
13. {15, 85}
14. {18, 26, 82, 90, 146, 154, 165, 167, 181, 210, 218}
15. {22}
16. {25, 61, 67, 103}
17. {27, 39, 53, 83}
18. {28, 70, 156, 157, 198, 199}
19. {29, 71}
20. {30, 86, 135, 149}
21. {37, 91}
22. {41, 97}
23. {45, 101}
24. {50, 58, 114, 122, 178, 179, 186, 242, 250}
25. {51}
26. {54, 147}
27. {57, 99}
28. {60, 102, 153, 195}
29. {62, 118}
30. {73}
31. {75, 89}
32. {77}
33. {78, 92}
34. {94}
35. {105}
36. {107, 121}
37. {109}

38. {110, 124}
39. {126, 129, 161}
40. {131, 145}
41. {133}
42. {137, 193}
43. {141, 197}
44. {150}
45. {158, 214}
46. {163, 177}
47. {169, 225}
48. {182}
49. {185, 227}
50. {188, 230}
51. {190, 246}
52. {201}
53. {205}
54. {206, 220, 238, 252}
55. {222, 254}
56. {233}