



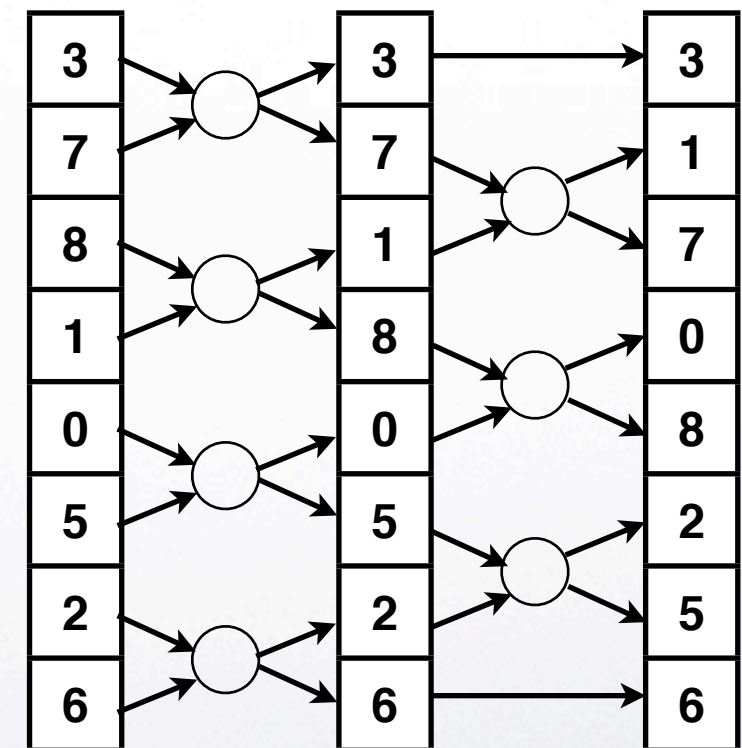
Flexible Sorter

Eric Liskay



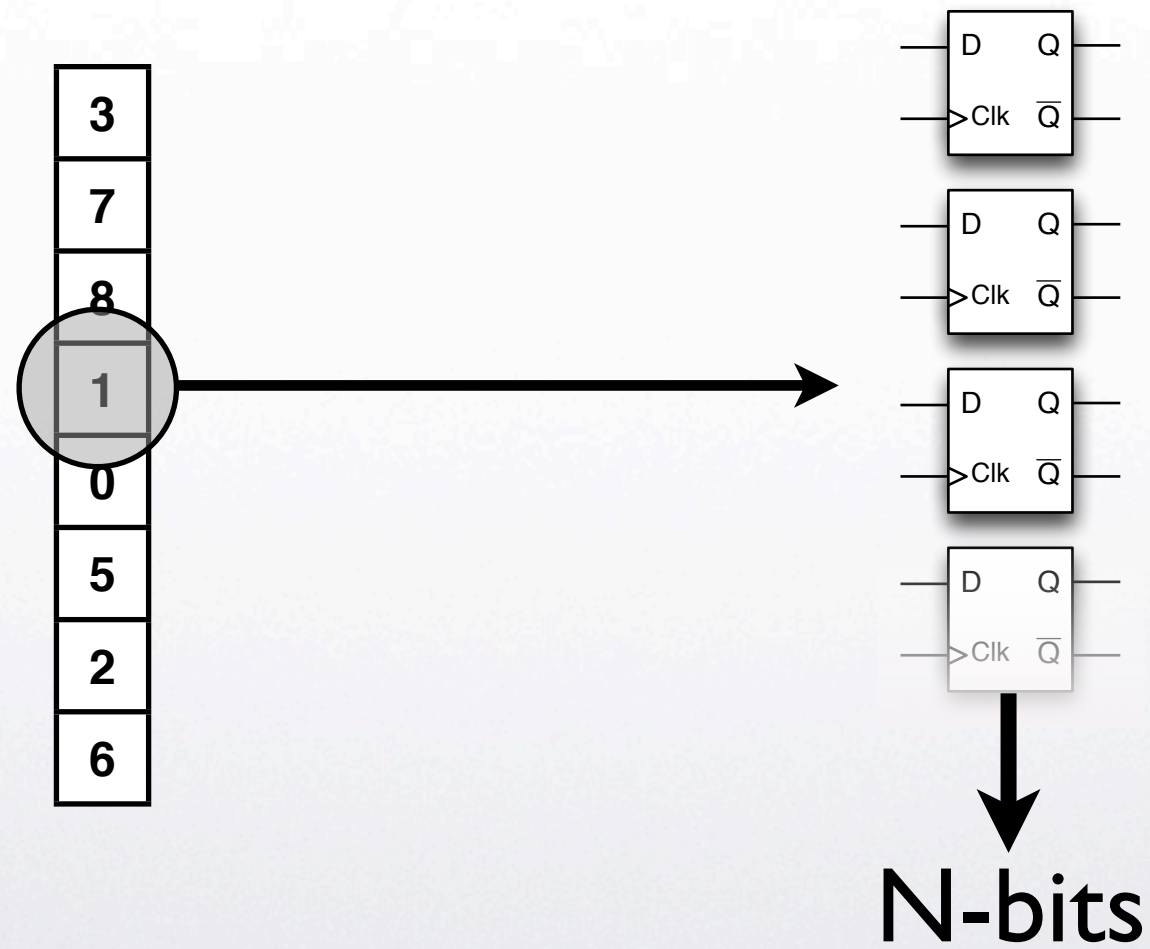
N-Bit/N-Number Sorter

- Can sort an arbitrary number of n-bit numbers
- Based on the butterfly network architecture
- Three separate registers allow for 3 sets of numbers to be in-flight at a time
 - Pipelined



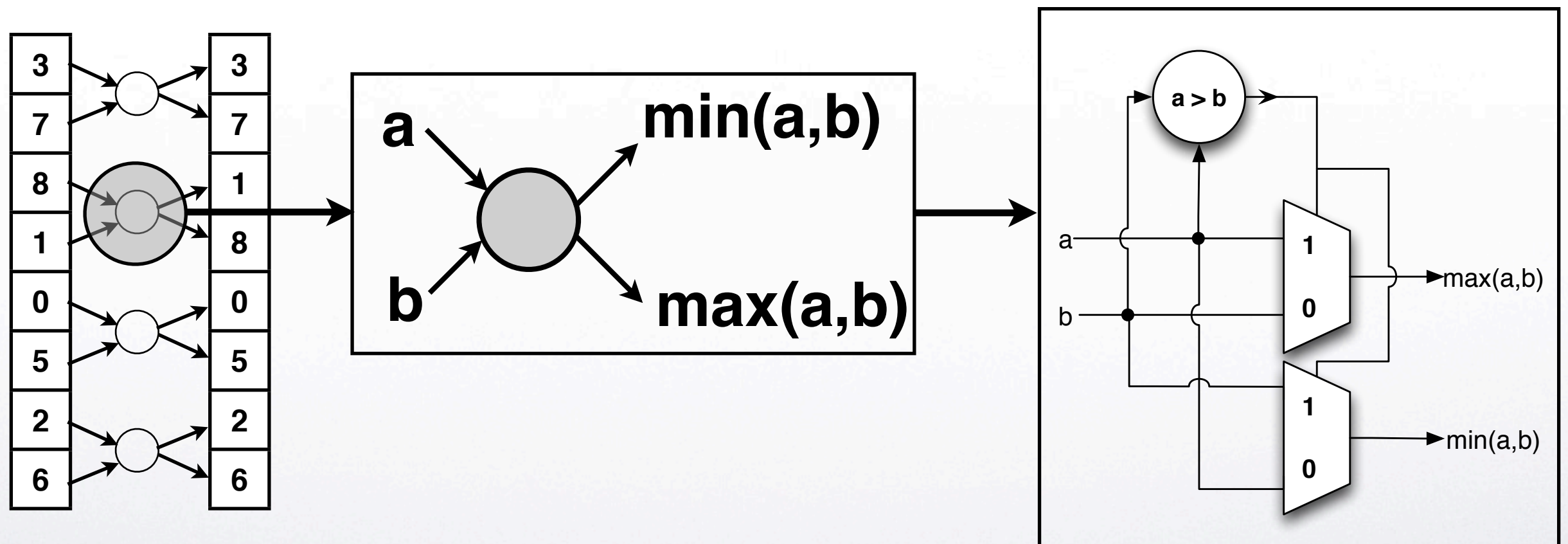


Registers



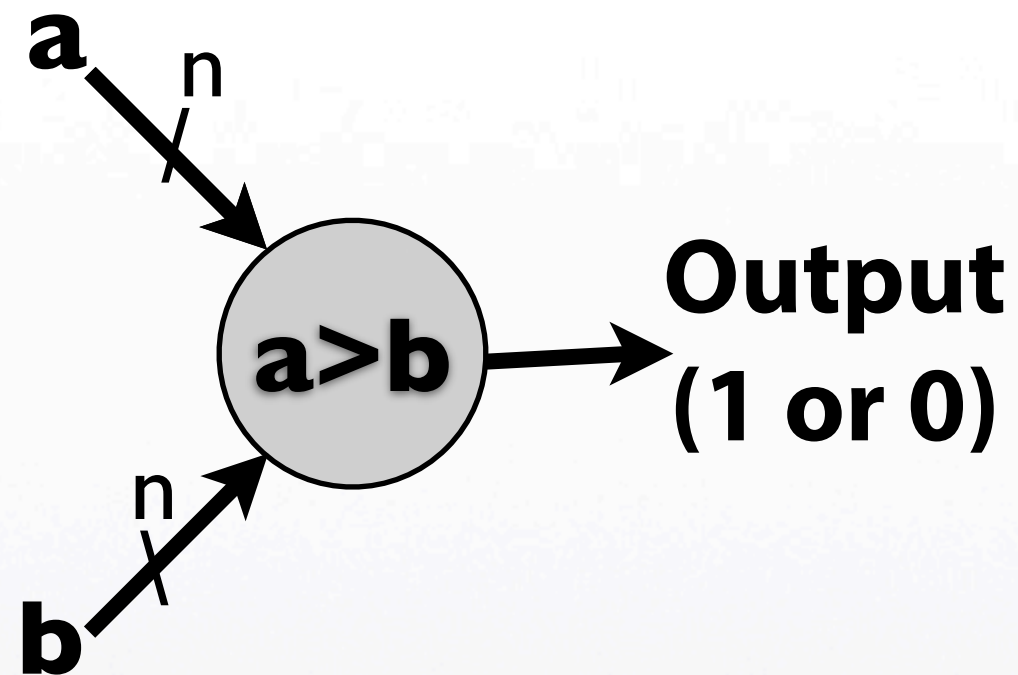


Min/Max Blocks



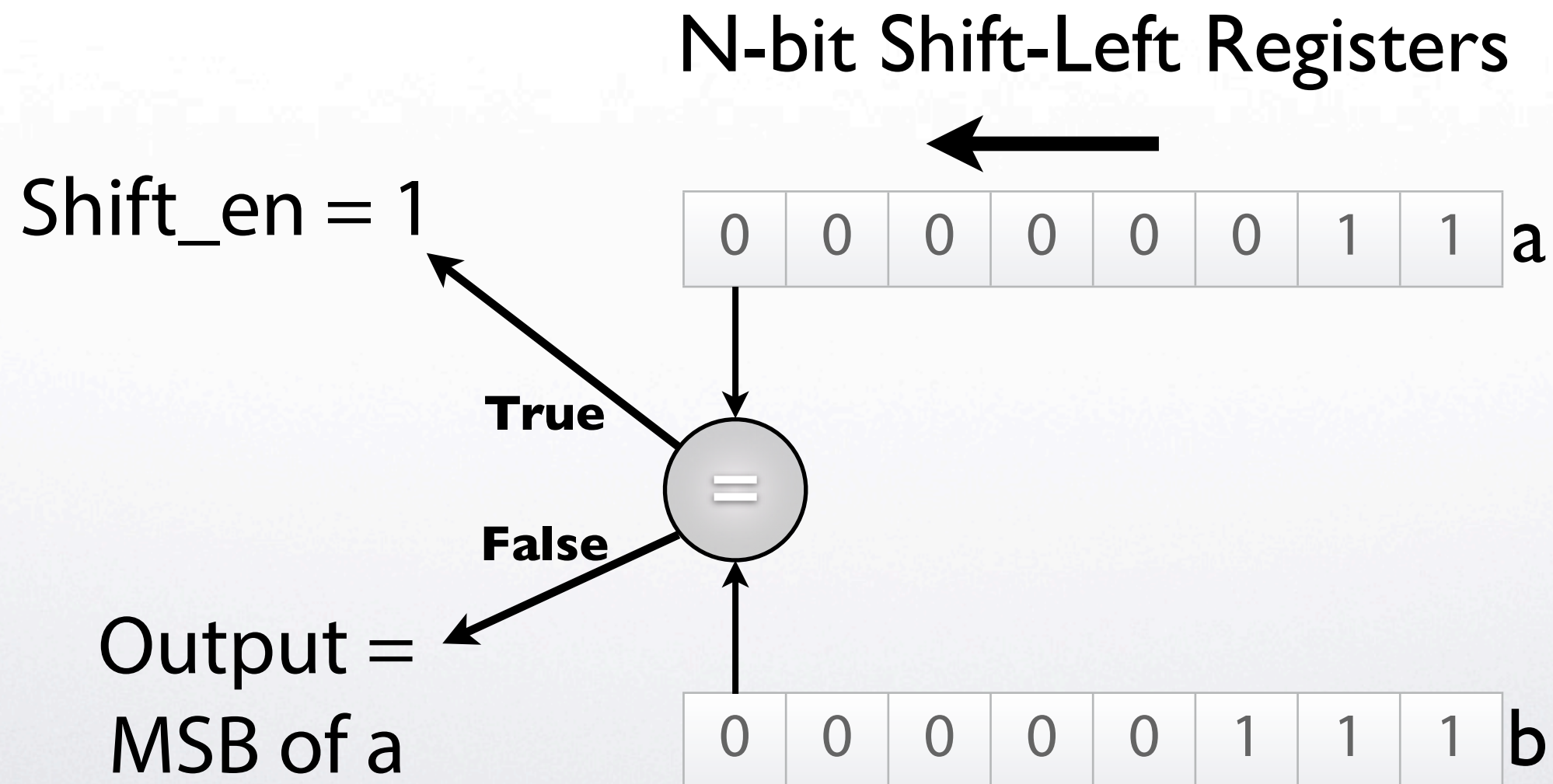


Greater-Than Block





Greater-Than Block





Results

- Input is generated using a random number generator
- input: 86 199 62 1 211 249 56 1 224 37 92
231 22 235 18 112 233 244 230 23 242 178 67
76 28 232 32 167 42 52 21 169 41 9 84 165
248 254
- Output: 1 1 9 18 21 22 23 28 32 37 41 42
52 56 62 67 76 84 86 92 112 165 167 169 178
199 211 224 230 231 232 233 235 242 244 248
249 254



The Code