

**Examples for
Chapter 13 & 14**

External Sort-Merge

M=3

32 12 47	25 29 63	52 2 30	55 65 5	9 20 15	31 8 50	22 45 10	1 11 24	3 33 17	58 40 26	36 16 4
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2 12 25	29 30 32	47 52 63	5 8 9	15 20 31	50 55 65	1 3 10	11 17 22	24 33 45	4 16 26	36 40 58
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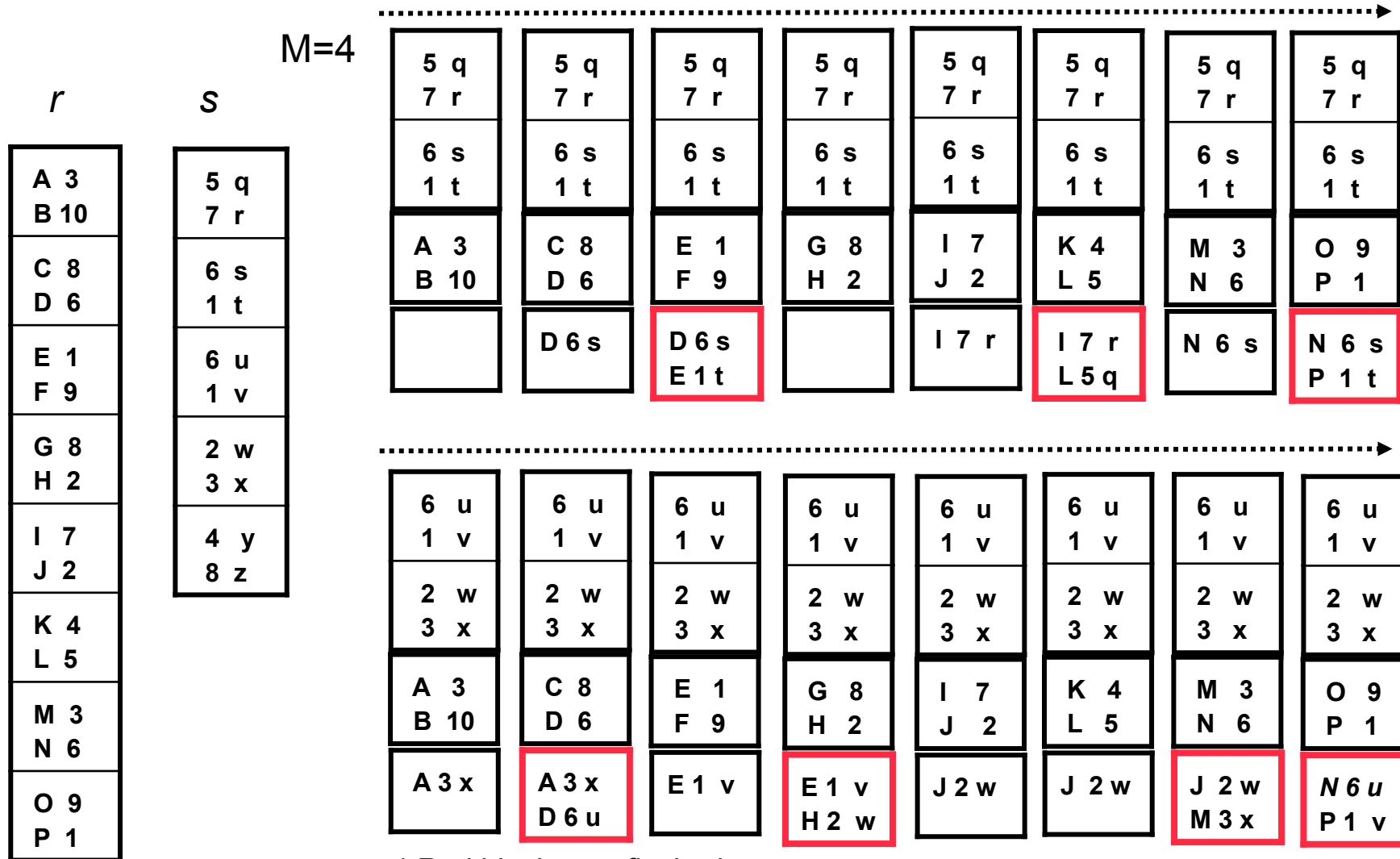


2 5 8	9 12 15	20 25 29	30 31 32	47 50 52	55 63 65	1 3 4	10 11 16	17 22 24	26 33 36	40 45 58
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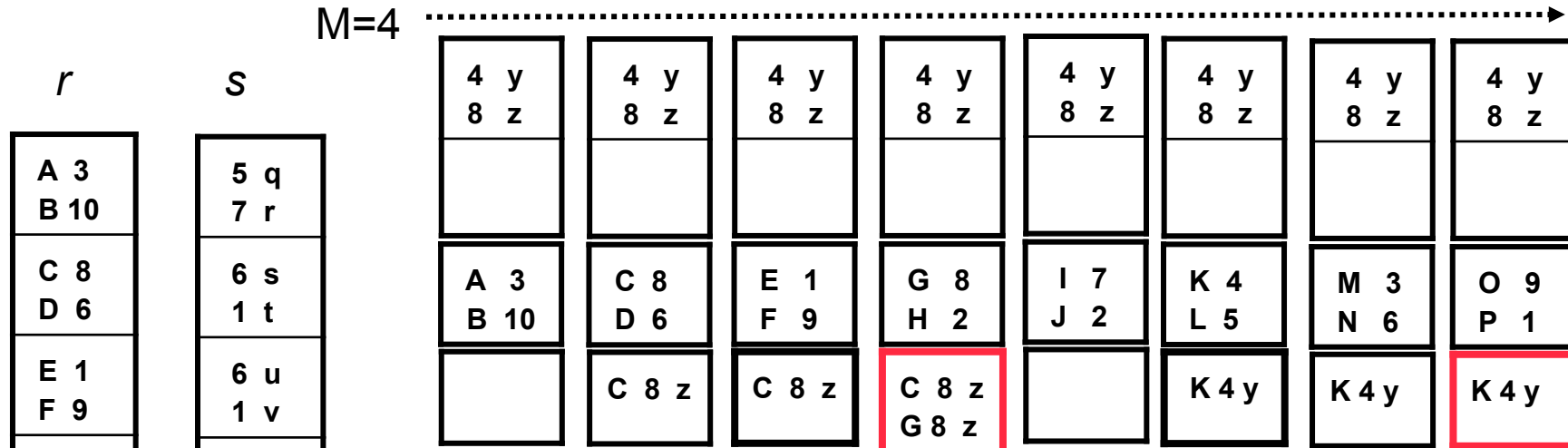
1 2 3	4 5 8	9 10 11	12 15 16	17 20 22	24 25 26	29 30 31	32 33 36	40 45 47	50 52 55	58 63 65
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Block Nested-Loop Join



* Red blocks are flushed

Block Nested-Loop Join (cont.)

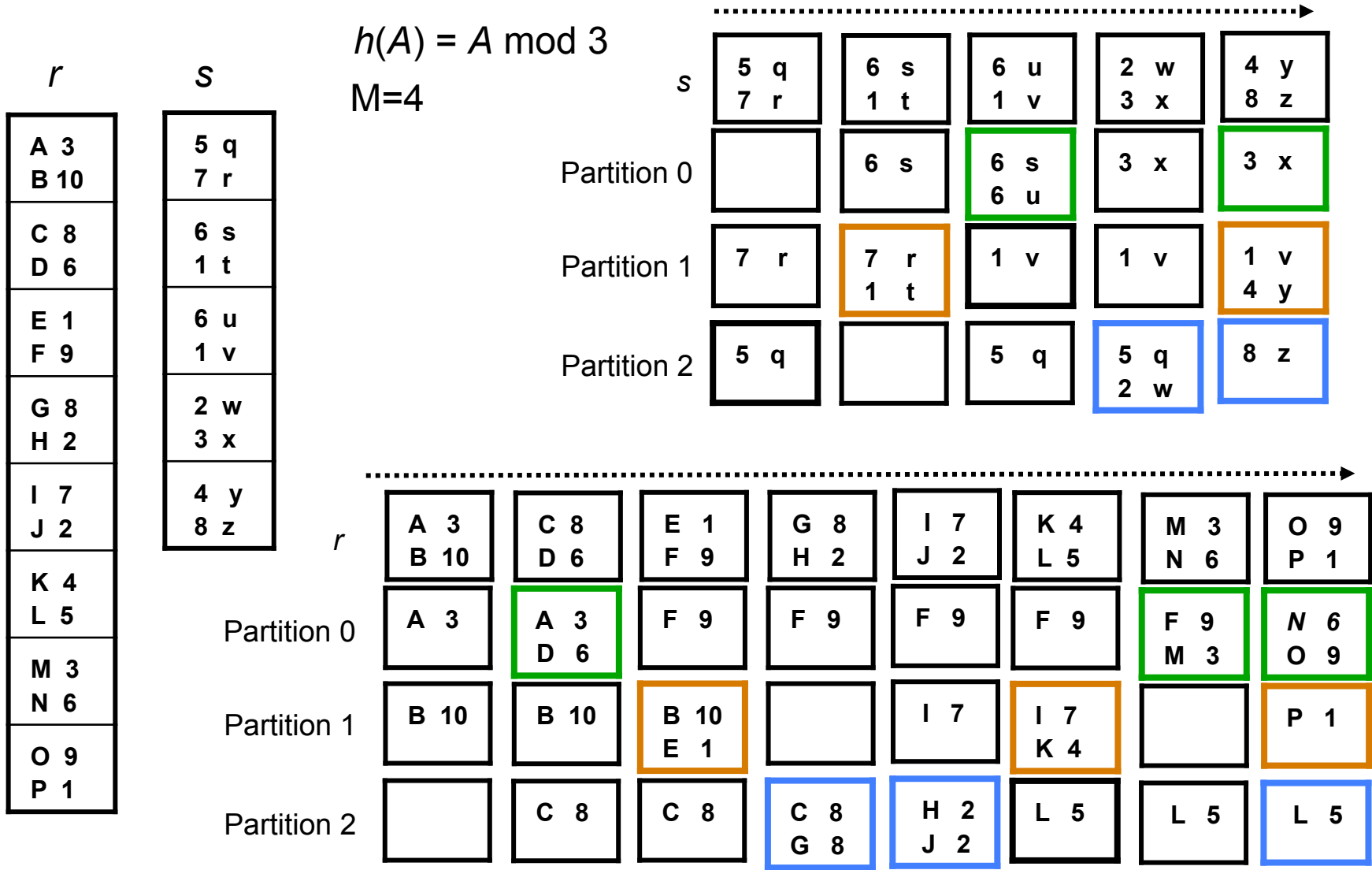


* Red blocks are flushed

Final result

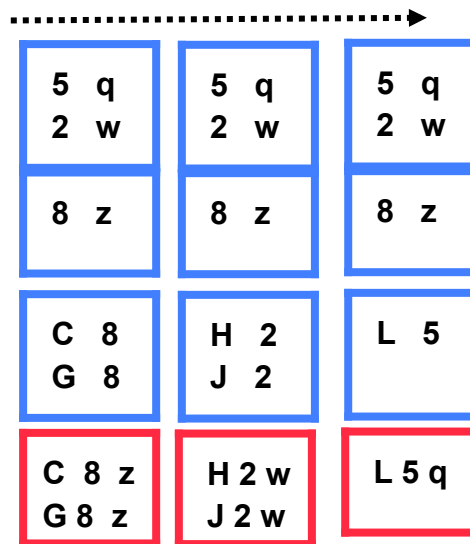
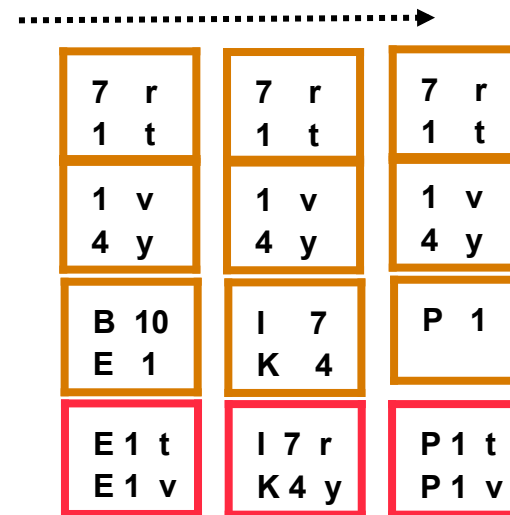
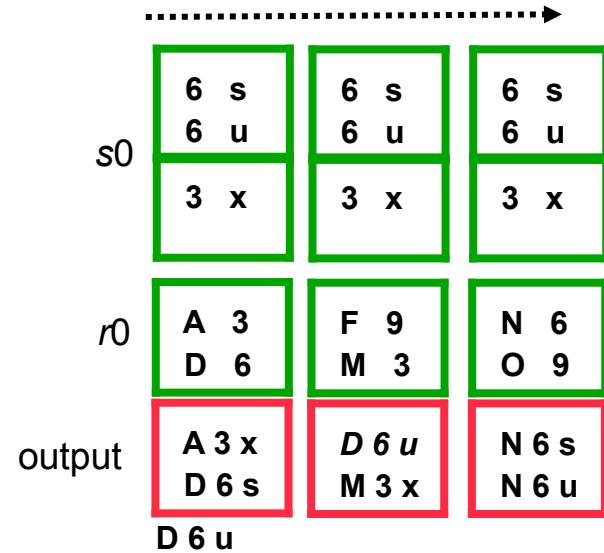
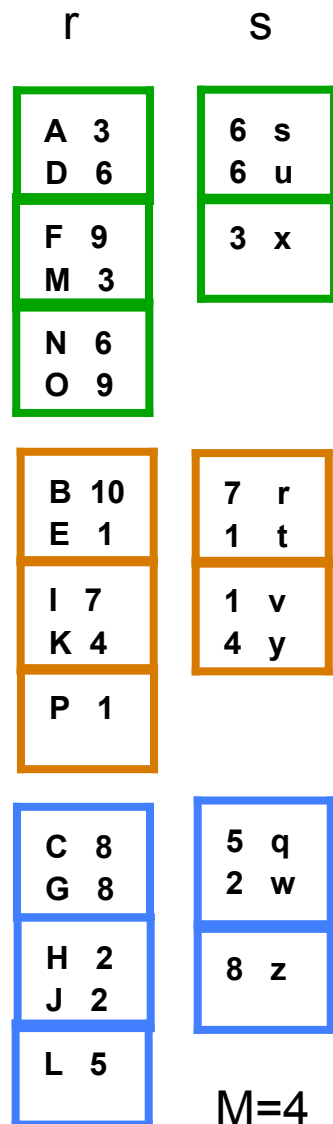


Hash Join

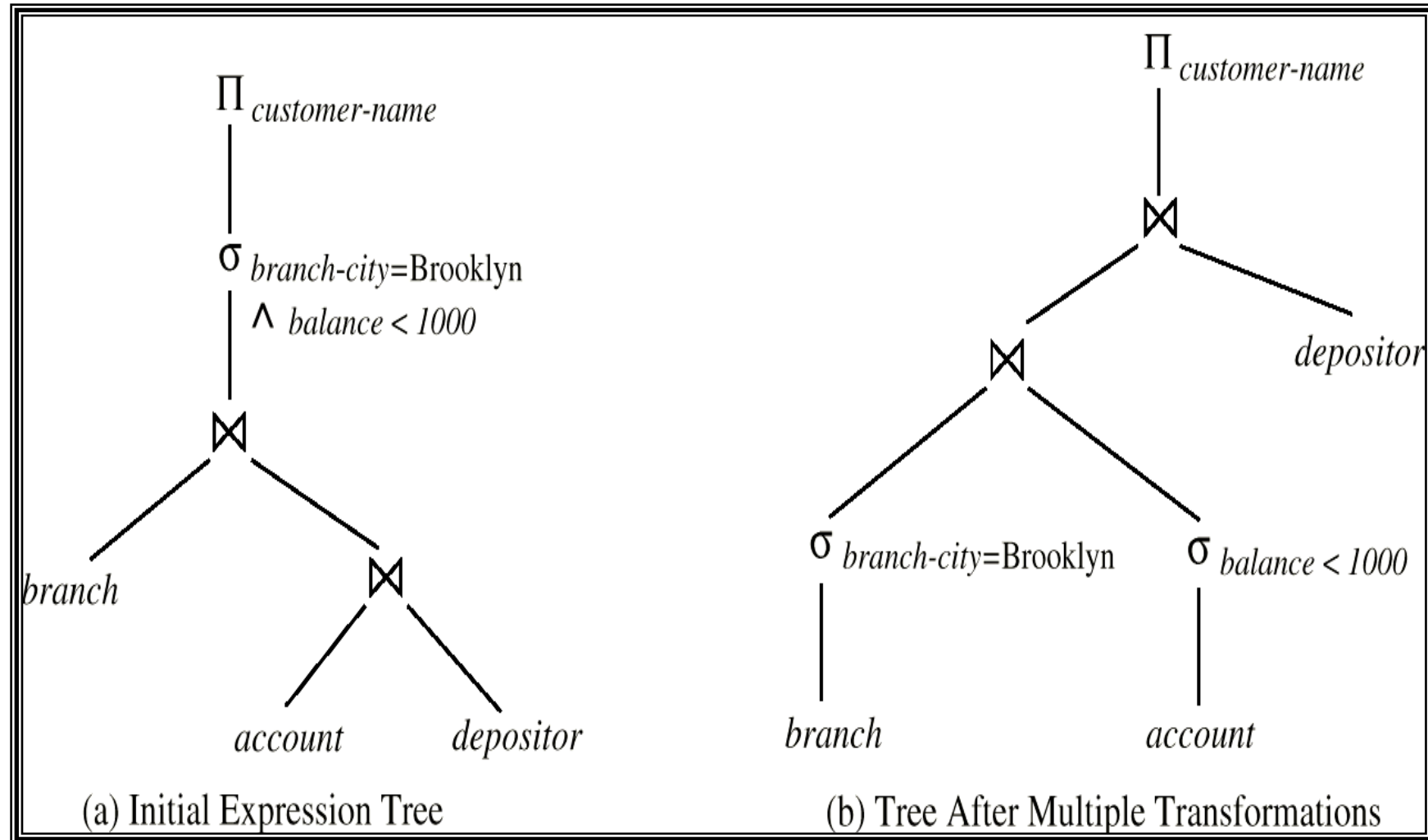


* Colored blocks are flushed

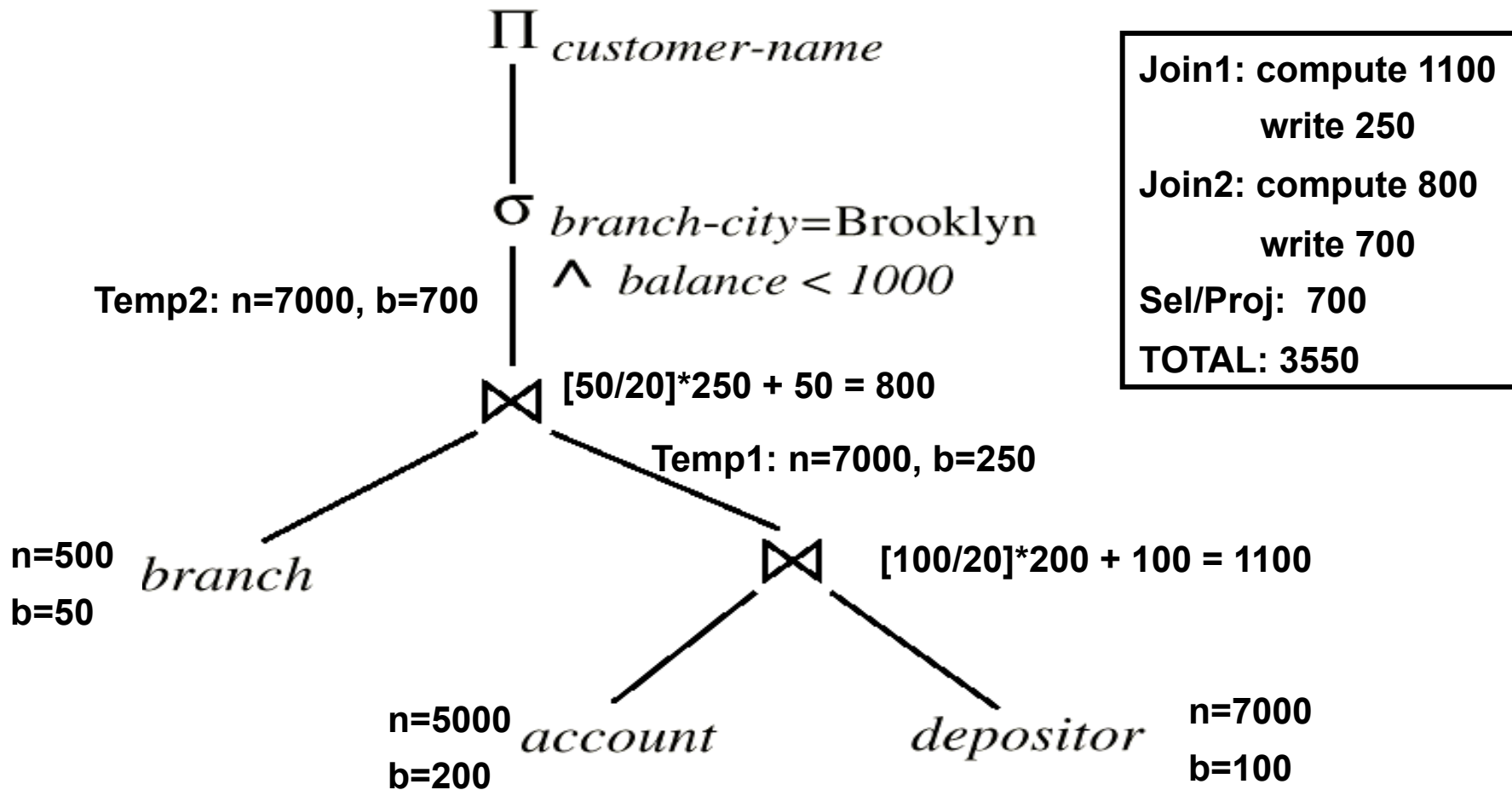
Hash Join (cont.)



Cost Estimation of Expressions

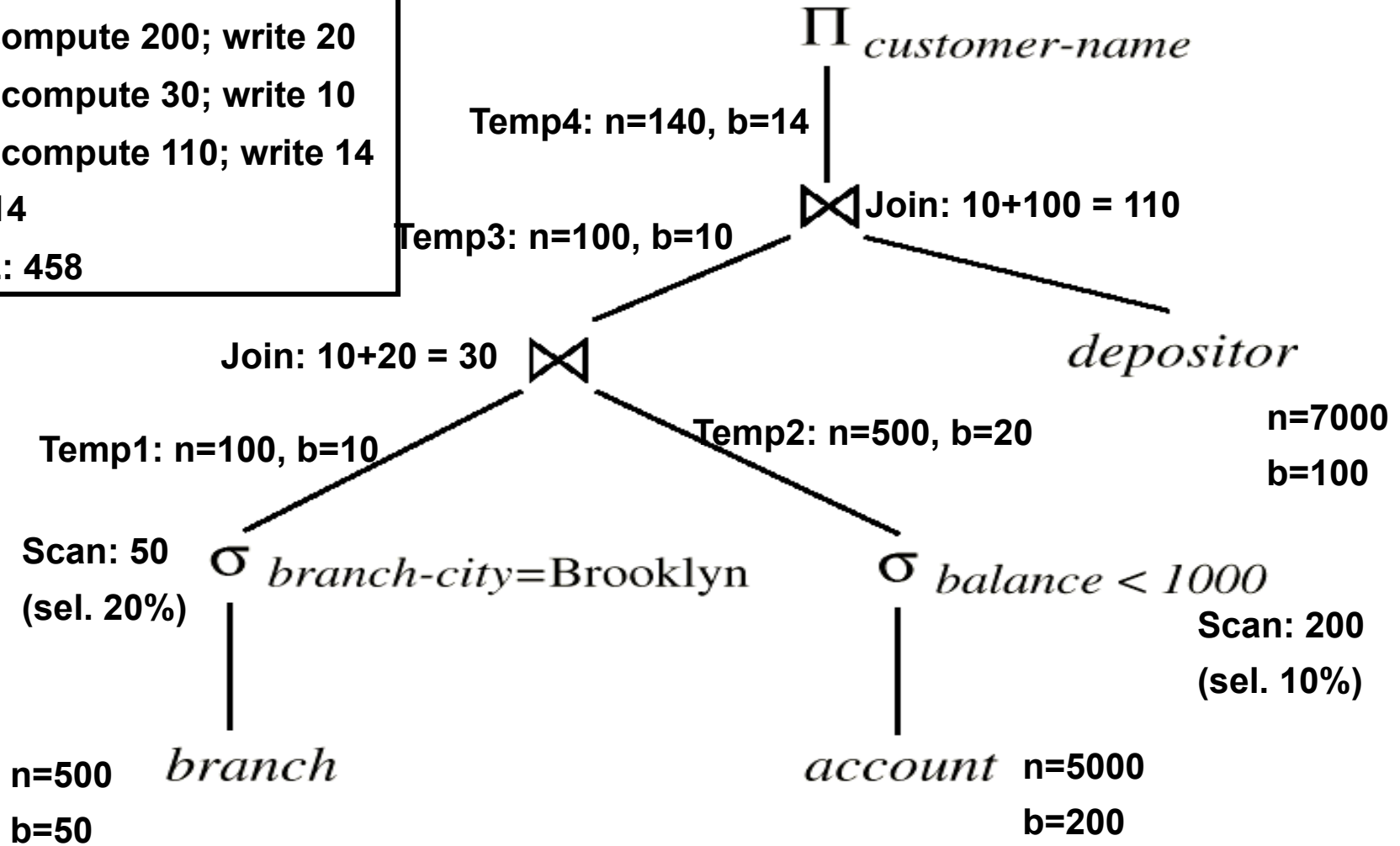


Cost Estimation of Expressions (cont.)



Cost Estimation of Expressions (cont.)

<p>Sel1: compute 50; write 10</p> <p>Sel2: compute 200; write 20</p> <p>Join1: compute 30; write 10</p> <p>Join2: compute 110; write 14</p> <p>Proj: 14</p> <p>TOTAL: 458</p>



End of Examples