

RLPBWT

Davide Cozzi

Dipartimento di Informatica, Sistemistica e Comunicazione (DISCo)
Università degli Studi di Milano Bicocca

Outline

1 Notation

2 Example

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2 Example

Some definitions

Outline

1 Notation

2 Example

The Panel

Panel

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1	0	1	0	0	1	1	1	1	1	0	0	1	0	0	1	0	0	1
0	1	0	0	0	0	1	1	1	1	1	0	0	1	1	1	0	0	1	0
0	0	0	1	0	0	0	0	0	1	1	1	1	0	0	1	0	1	0	0
1	0	0	1	1	0	1	0	1	0	0	0	1	1	1	0	0	1	1	0
0	1	1	0	1	1	1	1	1	0	0	1	0	0	1	1	1	1	0	0
1	1	0	0	1	0	1	0	1	0	1	0	1	0	0	0	1	1	1	1
0	0	0	1	0	1	1	1	1	1	1	1	0	0	1	0	0	0	1	1

PBWT Matrix

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1	0	1	0	0	1	0	0	1	1	0	1	1	1	0	1	0	1	1
0	0	0	1	1	0	0	1	1	0	0	1	1	1	1	0	1	0	1	0
0	1	0	1	1	1	1	1	1	0	0	0	0	0	0	1	0	1	1	1
1	0	0	0	0	0	1	0	1	1	1	1	0	0	0	1	0	1	1	0
0	1	1	1	0	0	1	0	1	1	1	0	0	1	1	0	0	0	0	0
1	0	0	0	1	1	1	1	1	1	1	0	1	0	0	1	1	0	1	0
0	1	0	0	0	0	1	1	1	0	1	1	0	0	1	0	0	1	0	1

Prefix and Divergence Arrays

Prefix Arrays

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
0	1	2	2	1	1	1	2	2	2	5	3	3	1	4	5	5	6	6	0
1	2	6	6	5	2	2	1	5	5	3	4	5	0	6	2	2	3	3	4
2	4	3	3	4	6	0	0	3	3	4	5	1	4	5	0	0	1	1	6
3	6	1	1	2	0	5	5	1	1	2	2	0	6	2	4	6	5	2	3
4	0	4	0	6	5	3	3	0	0	1	1	4	3	1	6	3	2	0	1
5	3	0	5	3	4	6	6	6	6	0	0	2	5	0	1	4	0	5	2
6	5	5	4	0	3	4	4	4	4	6	6	6	2	3	3	1	4	4	5

LCP Arrays: current k minus the original Durbin's divergence arrays

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	2	3	3	1	2	0	1	0	6	3	1	9	3	3	4	3	4	1
0	1	1	2	1	5	4	3	4	5	2	0	2	1	1	1	2	1	2	0
0	1	0	1	0	3	1	2	0	1	0	1	8	2	2	0	1	0	1	5
0	0	2	2	4	0	2	3	4	5	1	2	0	0	0	4	2	5	4	3
0	1	1	3	3	2	0	1	2	3	6	7	1	2	10	1	0	3	0	2
0	1	2	0	2	1	1	2	3	4	4	5	3	1	1	2	2	1	2	1

$$\begin{array}{cccc|cccc}
 p & pe & np & th & p & pe & np & th \\
 \hline
 0 & 4 & 4 & 0 & 0 & 3 & 0 & 0 \\
 1 & 0 & 0 & 1 & 1 & 0 & 0 & 1 \\
 2 & 4 & 1 & 2 & 2 & 4 & 1 & 2 \\
 3 & 5 & 5 & 3 & 3 & 1 & 0 & 3 \\
 4 & 2 & 2 & 4 & 4 & 5 & 2 & 4 \\
 5 & 6 & 6 & 5 & 5 & 2 & 0 & 5 \\
 6 & 3 & 3 & 6 & 6 & 6 & 2 & 6
 \end{array}
 \Rightarrow
 \begin{array}{cccc|cccc}
 p & pe & np & th & p & pe & np & th \\
 \hline
 0 & 0 & 0 & 0 & 0 & 3 & 2 & 0 \\
 4 & 6 & 3 & 4 & 3 & 0 & 0 & 3 \\
 5 & 4 & 2 & 5 & 4 & 6 & 4 & 4 \\
 & & & & 5 & 1 & 1 & 6
 \end{array}
 \Rightarrow \dots$$