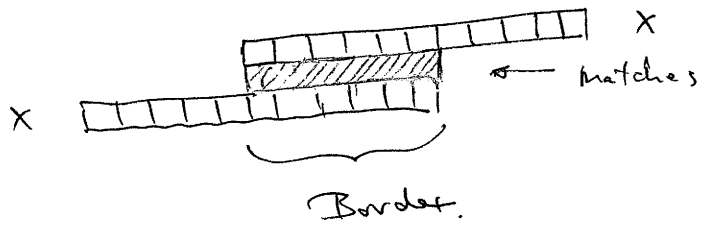
Borders

A border of a string x is a suffix which is also a prefix:



Let Border(x) denote the longest non-trivial border of x.

i.e., x itself does not count

($|\text{Border}(x)| < |x|$)

Example: For x = aabaaba we have Border(x) = aaba

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a a b a a b a
| | | | |
a a b a a b a
```

Let $B_x(j)$ be the length of the border of the first j chars in x:

$$B_x(j) = |\text{Border}(x[1..j])| \quad \text{for } j = 1, \ldots, |x|$$

Note that $B_x(1) = 0$ always (by non-triviality of borders).

It will later be convenient to define $B_x(0) = -1$.

Example: For x = aabaaba we get:

j	0	1	2	3	4	5	6	7
$B_x(j)$	-1	0	1	0	1	2	3	4

If x is understood from the context, we just write $B(j)$.