McCrieght's algorithm for linear-time suffix tree construction

Example

Example string: AAAAAAA

1	2	3	4	5	6	7	8
A	A	A	A	A	A	A	$

Conventions:

- T_i corresponds to the tree after *i* iterations.
- Suffix numbering and string indexing starts from 1 and ends at n.
- Only for convenience in presentation, edge-labels are shown as strings. In the implementation, it is assumed that edge-labels are stored as a pair of integers.

T_1:

Initial tree:

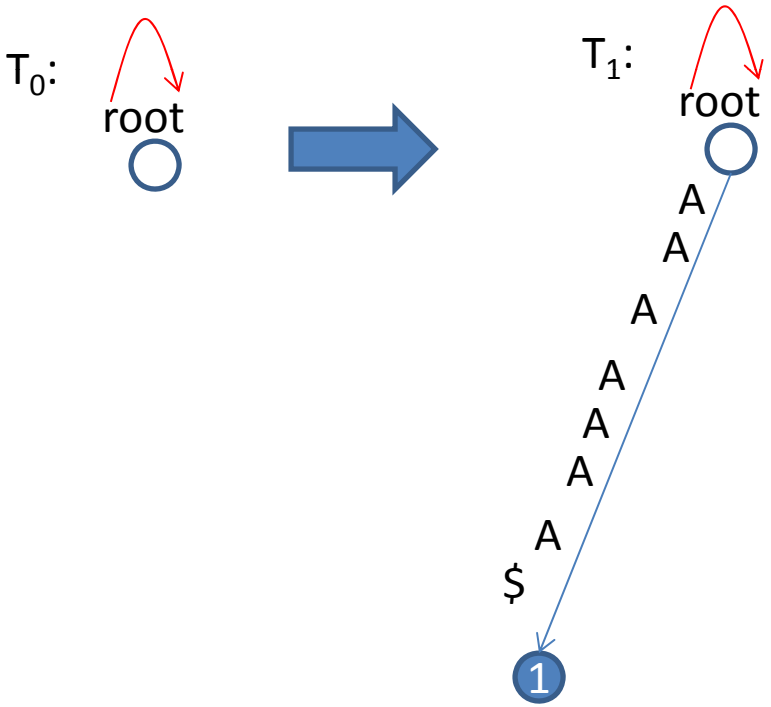
Denotes suffix links

T_0:

Example string: AAAAAAA

Iteration: 1

1	2	3	4	5	6	7	8
A	A	A	A	A	A	A	$



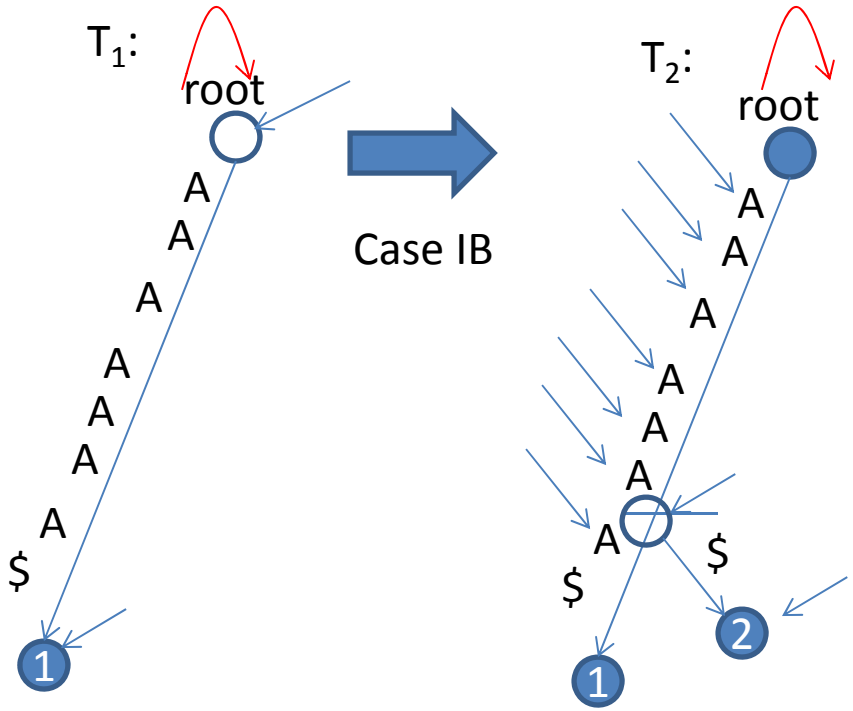
For this iteration:

Tally of cost	
Number of character comparisons	0
Number of node hops	0

Example string: AAAAAAA

Iteration: 2

1	2	3	4	5	6	7	8
A	A	A	A	A	A	A	$



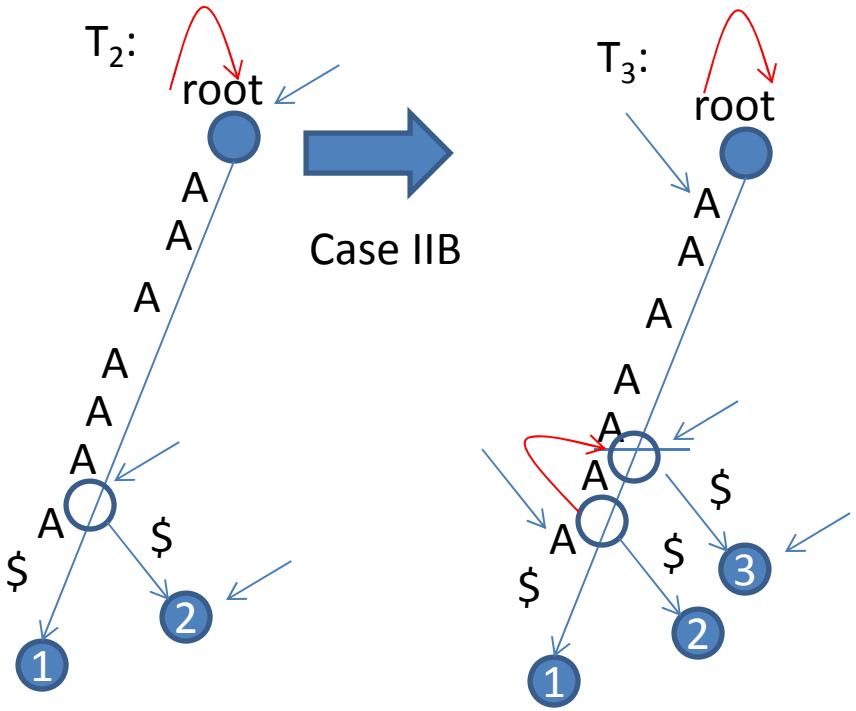
For this iteration:

Tally of cost	
Number of character comparisons	7
Number of node hops	0

Example string: AAAAAAA

Iteration: 3

1	2	3	4	5	6	7	8
A	A	A	A	A	A	A	$



β=AAAAAA
= A β'

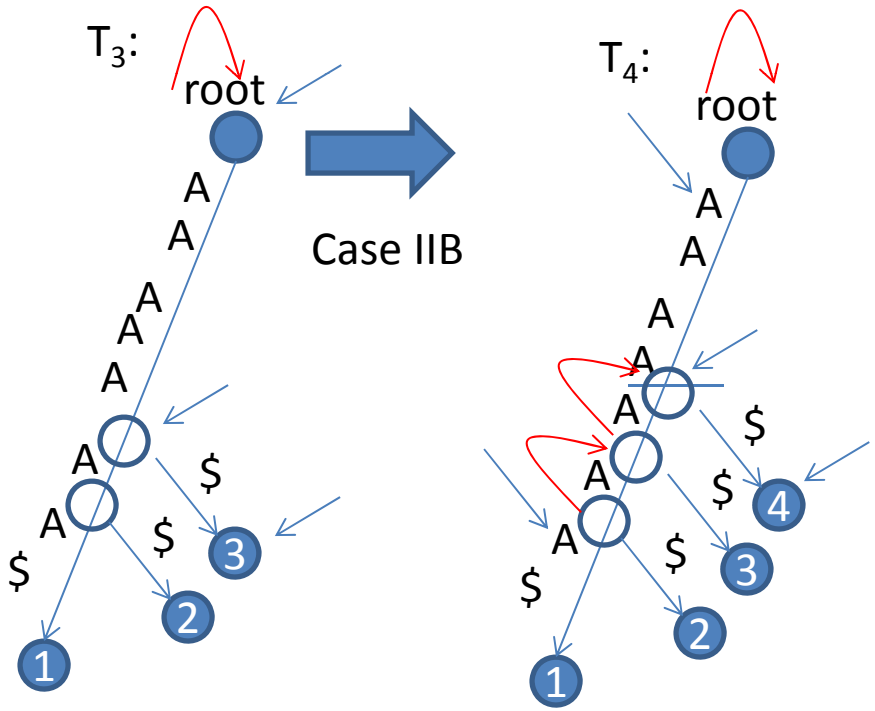
For this iteration:

Tally of cost	
Number of character comparisons	1
Number of node hops	1

Example string: AAAAAAA

Iteration: 4

1	2	3	4	5	6	7	8
A	A	A	A	A	A	A	$



β=AAAAA
= A β'

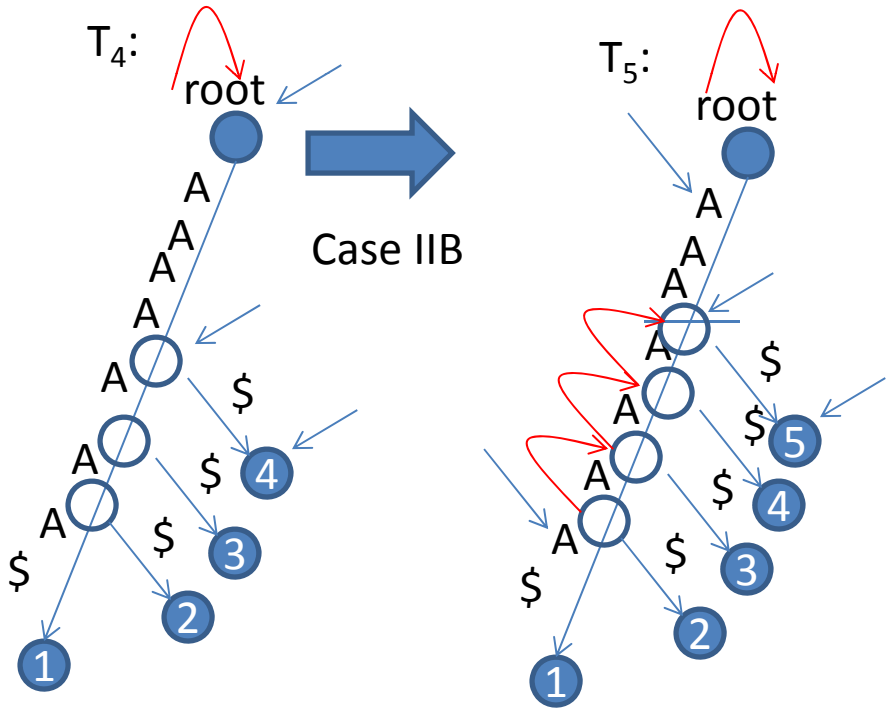
For this iteration:

Tally of cost	
Number of character comparisons	1
Number of node hops	1

Example string: AAAAAAA

Iteration: 5

1	2	3	4	5	6	7	8
A	A	A	A	A	A	A	$



β=AAAA
= A β'

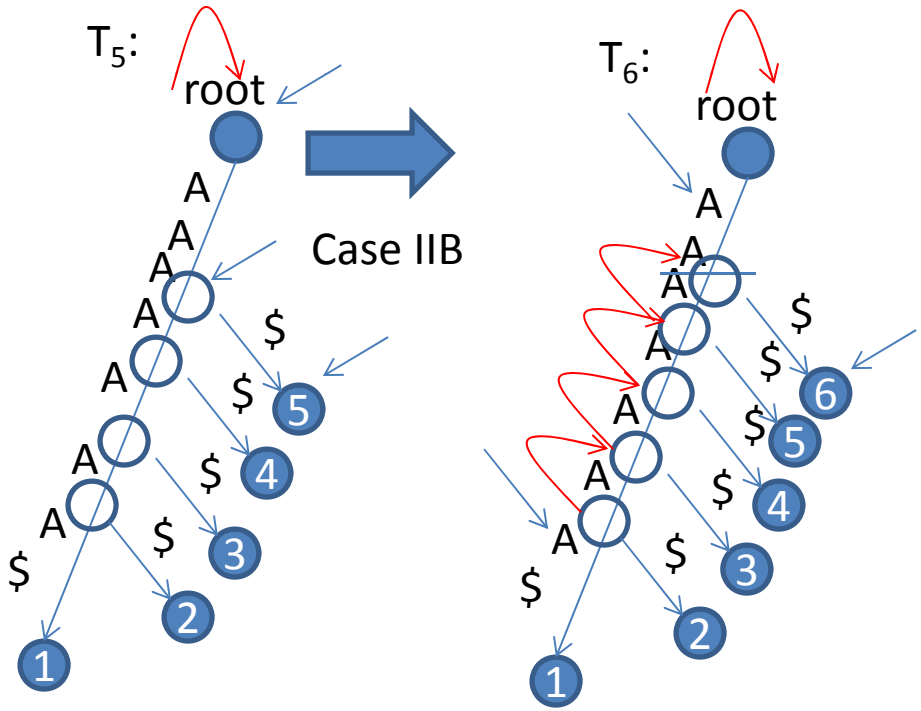
For this iteration:

Tally of cost	
Number of character comparisons	1
Number of node hops	1

Example string: AAAAAAA

Iteration: 6

1	2	3	4	5	6	7	8
A	A	A	A	A	A	A	$



β=AAA
= A β'

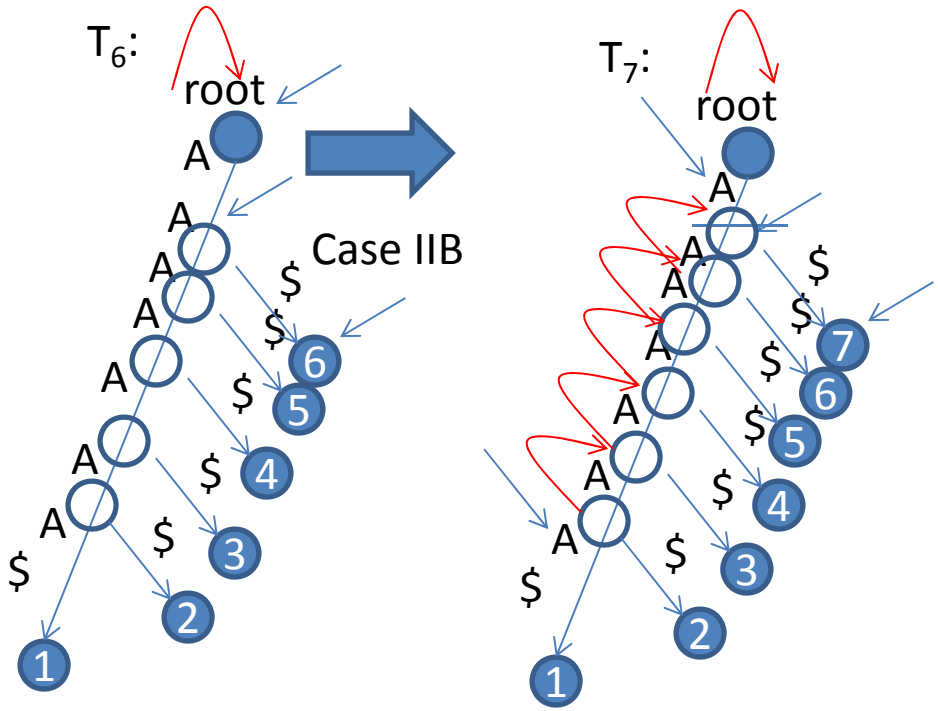
For this iteration:

Tally of cost	
Number of character comparisons	1
Number of node hops	1

Example string: AAAAAAA

Iteration: 7

1	2	3	4	5	6	7	8
A	A	A	A	A	A	A	$



β=AA
= A β'

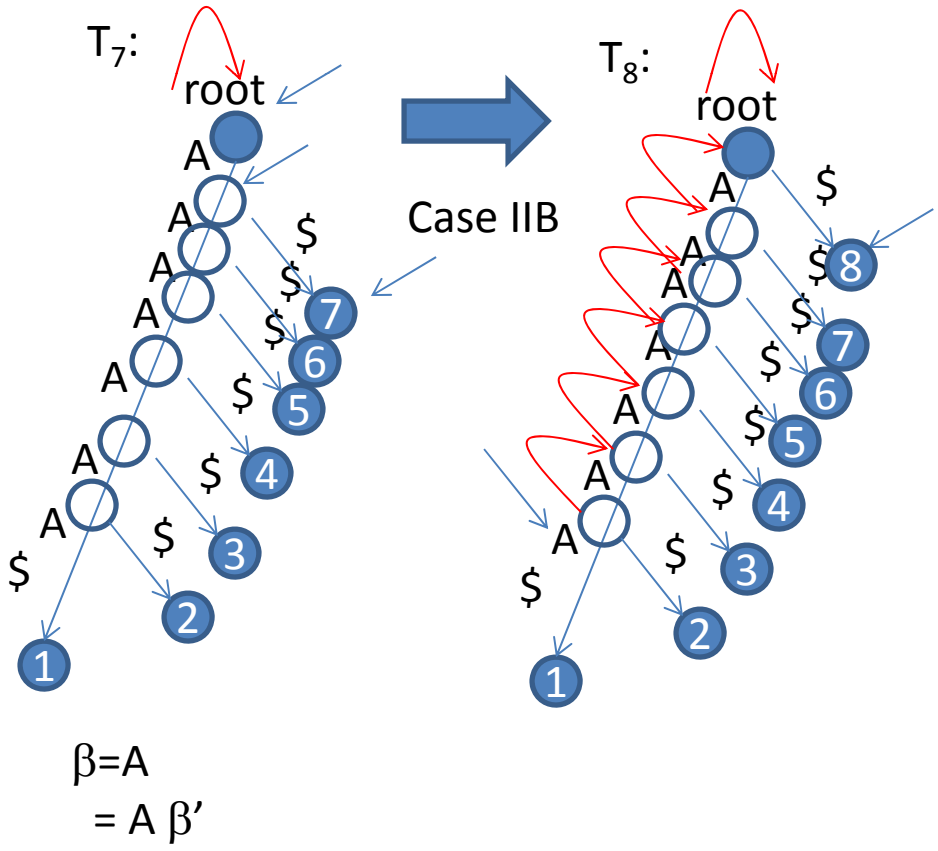
For this iteration:

Tally of cost	
Number of character comparisons	1
Number of node hops	1

Example string: AAAAAAA

Iteration: 8

1	2	3	4	5	6	7	8
A	A	A	A	A	A	A	$



β=A
= A β'

TOTAL Tally of cost over all iterations	
Number of character comparisons	12
Number of node hops	5

For this iteration:

Tally of cost	
Number of character comparisons	0
Number of node hops	0