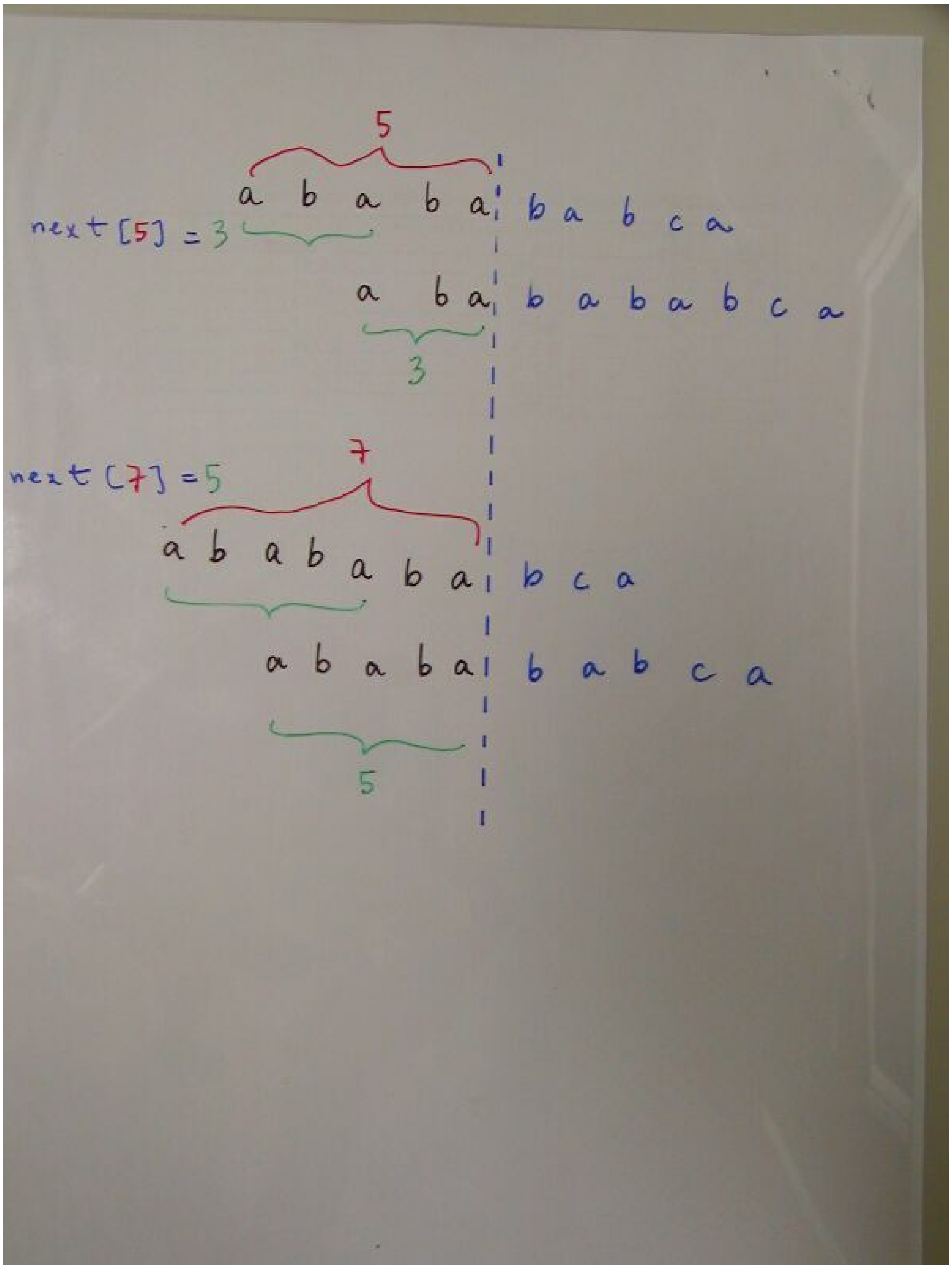
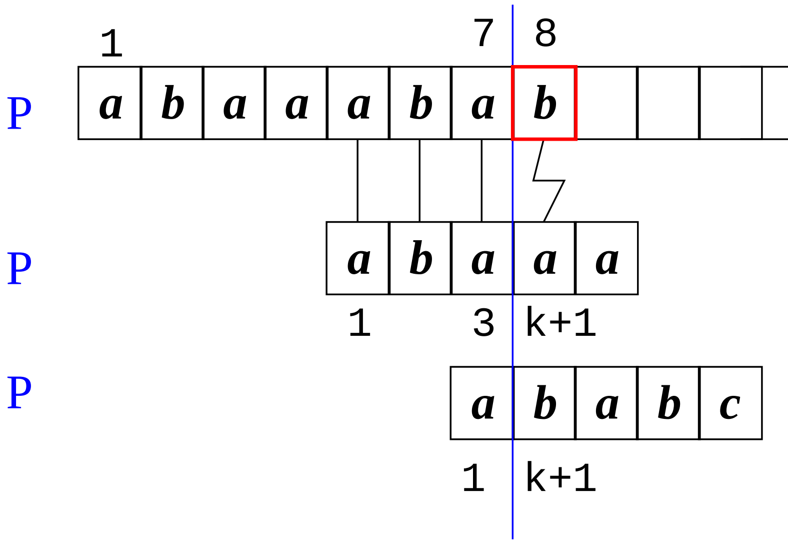
An example for *next* function



An example on how to compute the *next* function

q	1	2	3	4	5	6	7	8	9
P[q]	*a*	*b*	*a*	*a*	*a*	*b*	*a*	*b*	
next(q)	0	0	1	1	1	2	3	?	



k=3, q=8

k=3,q=8; P[4]!=P[8]
(enters the while loop)
k assigns to next[k](=1)

k=1,q=8; P[2]=P[8]
(exits the while loop)
k assigns to k+1 (=2)
next[q]=k (=2)