Exercise in Lecture: (week 10)

Let P =ababbbababa. Compute the failure function values.

Solution:

i	1	2	3	4	5	6	7	8	9	10	11
P	a	b	a	b	b	b	a	b	a	b	a
F(i)	0	0	1	2	0	0	1	2	3	4	3

$q = 1$	$P(1) = a$		$f(1) = 0$
$q = 2$	$P(2) = b$	$P(f(2-1)+1) = a$	$f(2) = 0$
$q = 3$	$P(3) = a$	$P(f(3-1)+1) = a$	$f(3) = 1$
$q = 4$	$P(4) = b$	$P(f(4-1)+1) = b$	$f(4) = 2$
$q = 5$	$P(5) = b$	$P(f(5-1)+1) = a$	
		$P(ff(5-1)+1) = a$	$f(5) = 0$
$q = 6$	$P(6) = b$	$P(f(6-1)+1) = a$	$f(6) = 0$
$q = 7$	$P(7) = a$	$P(f(7-1)+1) = a$	$f(7) = 1$
$q = 8$	$P(8) = b$	$P(f(8-1)+1) = b$	$f(8) = 2$
$q = 9$	$P(9) = a$	$P(f(9-1)+1) = a$	$f(9) = 3$
$q = 10$	$P(10) = b$	$P(f(10-1)+1) = b$	$f(10) = 4$
$q = 11$	$P(11) = a$	$P(f(11-1)+1) = b$	
		$P(ff(11-1)+1) = a$	$f(11) = 3$