Let $n = 5$ and $(a_1, a_2, a_3, a_4, a_5) = $ (do, for, if, return, while) be an identifier set.
Let $(p_1, p_2, p_3, p_4, p_5) = (1,1,3,3,2)$ and $(q_0, q_1, q_2, q_3, q_4, q_5) = (2,3,1,2,1,1)$ be the probabilities for successful and unsuccessful search of identifiers, respectively. Note that p's and q's have been multiplied by 20 for convenience. What is the cost of the optimal binary search tree for (do, for, if, return, while)?

	0	1	2	3	4	5
key		1	1	3	3	2
dk	2	3	1	2	1	1

W	0	1	2	3	4	5
1	2	6	8	13	17	20
2		3	5	10	14	17
3			1	6	10	13
4				2	6	9
5					1	4
6						1

$r[1.5] = 3$

$r[1.2] = 1$

$r[4.5] = 4$

$\Downarrow$
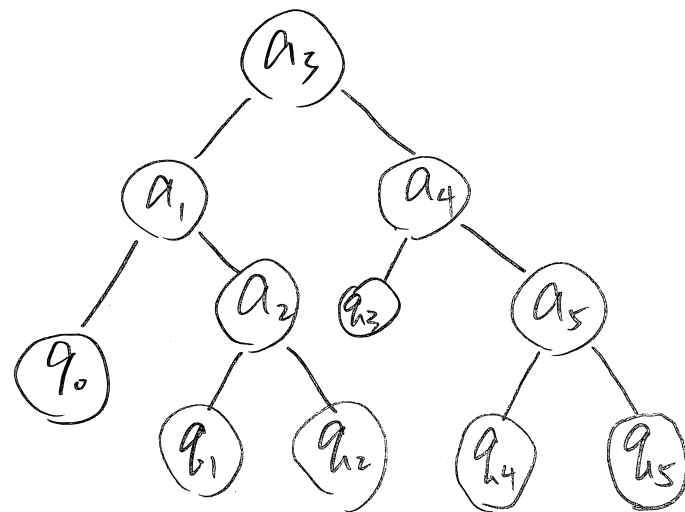
e	0	1	2	3	4	5
1	2	11	19	33	45	(56)
2		3	9	21	32	43
3			1	9	20	28
4				2	9	17
5					1	6
6						1

r	1	2	3	4	5
1	1	1	2	3	3
2		2	3	3	3
3			3	3	4
4				4	4
5					5