

# Edit Distance --- DP algorithm matrix

		b	a	r	b	e	r	s
	0	1	2	3	4	5	6	7
b	1							
o	2							
a	3							
r	4							
d	5							
e	6							
r	7							

# Edit Distance --- DP algorithm matrix

		b	a	r	b	e	r	s
	0	1	2	3	4	5	6	7
b	1	0						
o	2							
a	3							
r	4							
d	5							
e	6							
r	7							

$0 = \min(1+1, 0 + \underbrace{\text{diff}(b,b)}_{=0}, 1+1)$

# Edit Distance --- DP algorithm matrix

		b	a	r	b	e	r	s
	0	1	2	3	4	5	6	7
b	1	0						
o	2							
a	3							
r	4							
d	5							
e	6							
r	7							

# Edit Distance --- DP algorithm matrix

		b	a	r	b	e	r	s
	0	1	2	3	4	5	6	7
b	1	0	1					
o	2							
a	3							
r	4							
d	5							
e	6							
r	7							

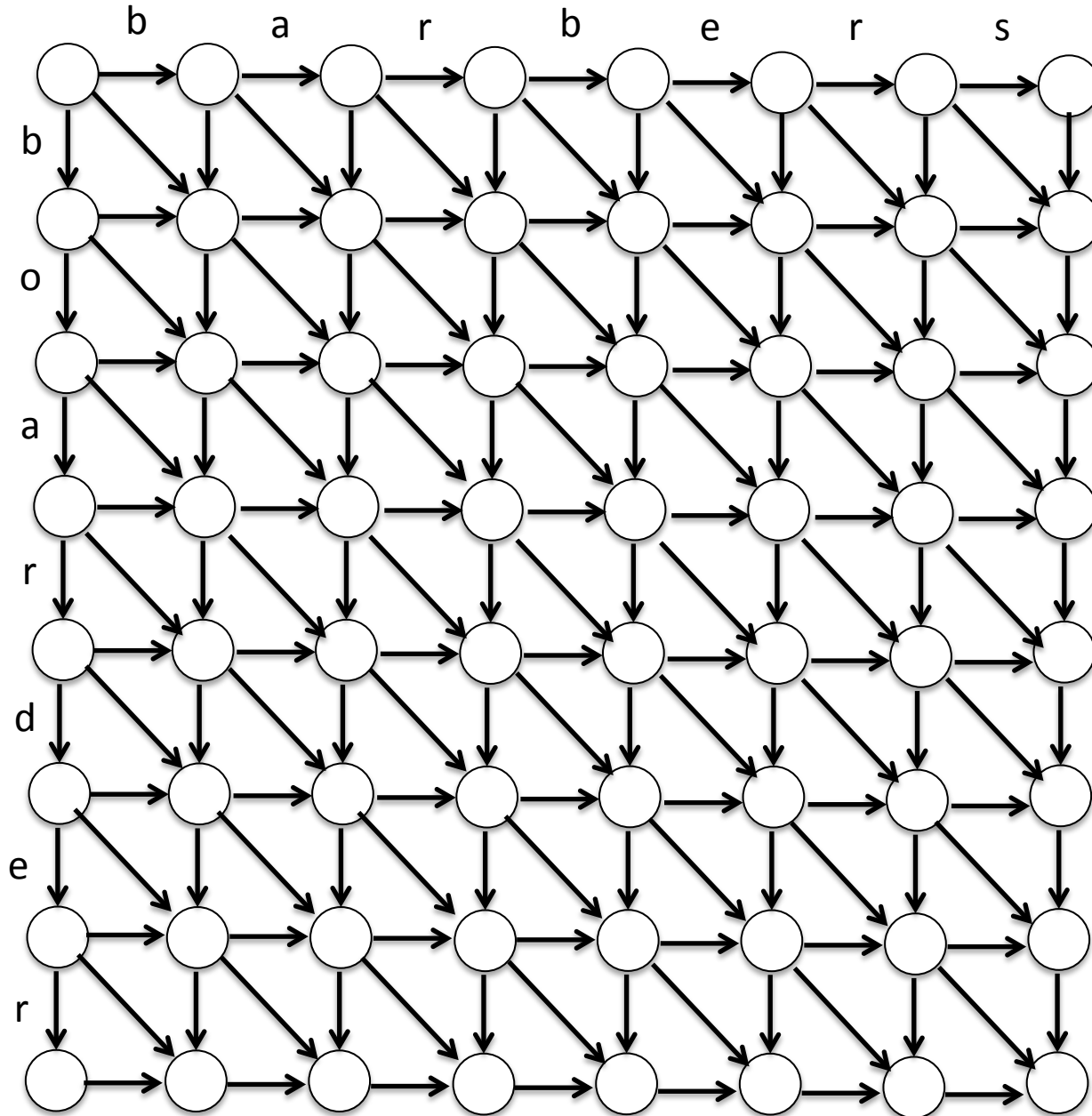
$1 = \min(0+1, 1+\underbrace{\text{diff}(b,a)}_{=1}, 2+1)$

# Edit Distance --- DP algorithm matrix

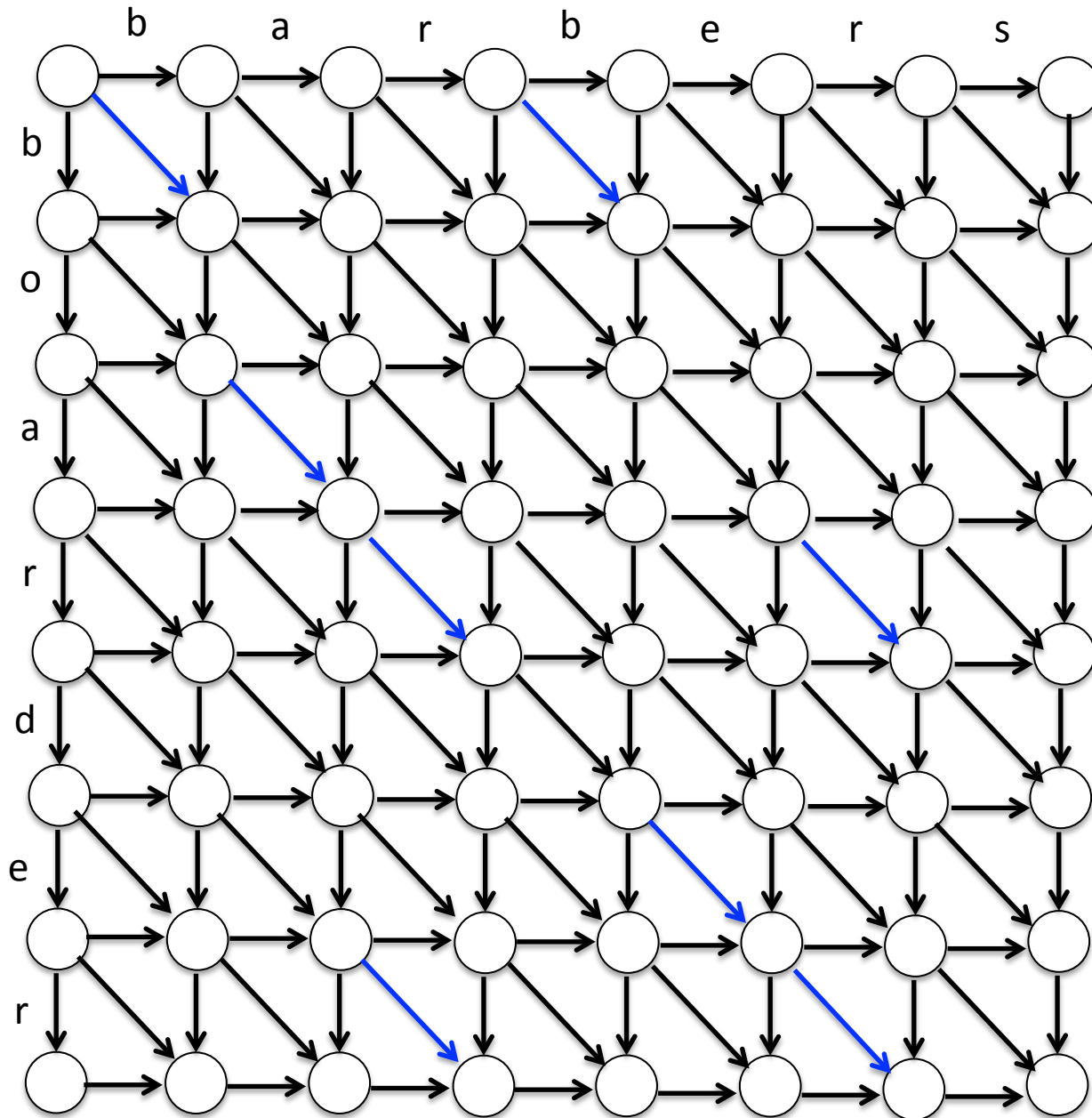
		b	a	r	b	e	r	s
	0	1	2	3	4	5	6	7
b	1	0	1	2	3	4	5	6
o	2	1	1	2	3	4	5	6
a	3	2	1	2	3	4	5	6
r	4	3	2	1	2	3	4	5
d	5	4	3	2	2	3	4	5
e	6	5	4	3	3	2	3	4
r	7	6	5	4	4	3	2	3

Diagram illustrating the Edit Distance DP algorithm matrix for the words "boards" and "boards". The matrix shows the edit distance between prefixes of the two words. The value 3 in the bottom-right cell (row 'r', column 's') is highlighted in red, indicating the final edit distance. Arrows point from the cell (row 'b', column '0') to (row 'b', column '1'), (row 'b', column '1') to (row 'o', column '1'), (row 'b', column '1') to (row 'a', column '1'), (row 'b', column '1') to (row 'r', column '1'), (row 'b', column '1') to (row 'b', column '2'), (row 'b', column '1') to (row 'e', column '1'), and (row 'b', column '1') to (row 'r', column '2').

# Edit Distance --- Digraph of subproblems

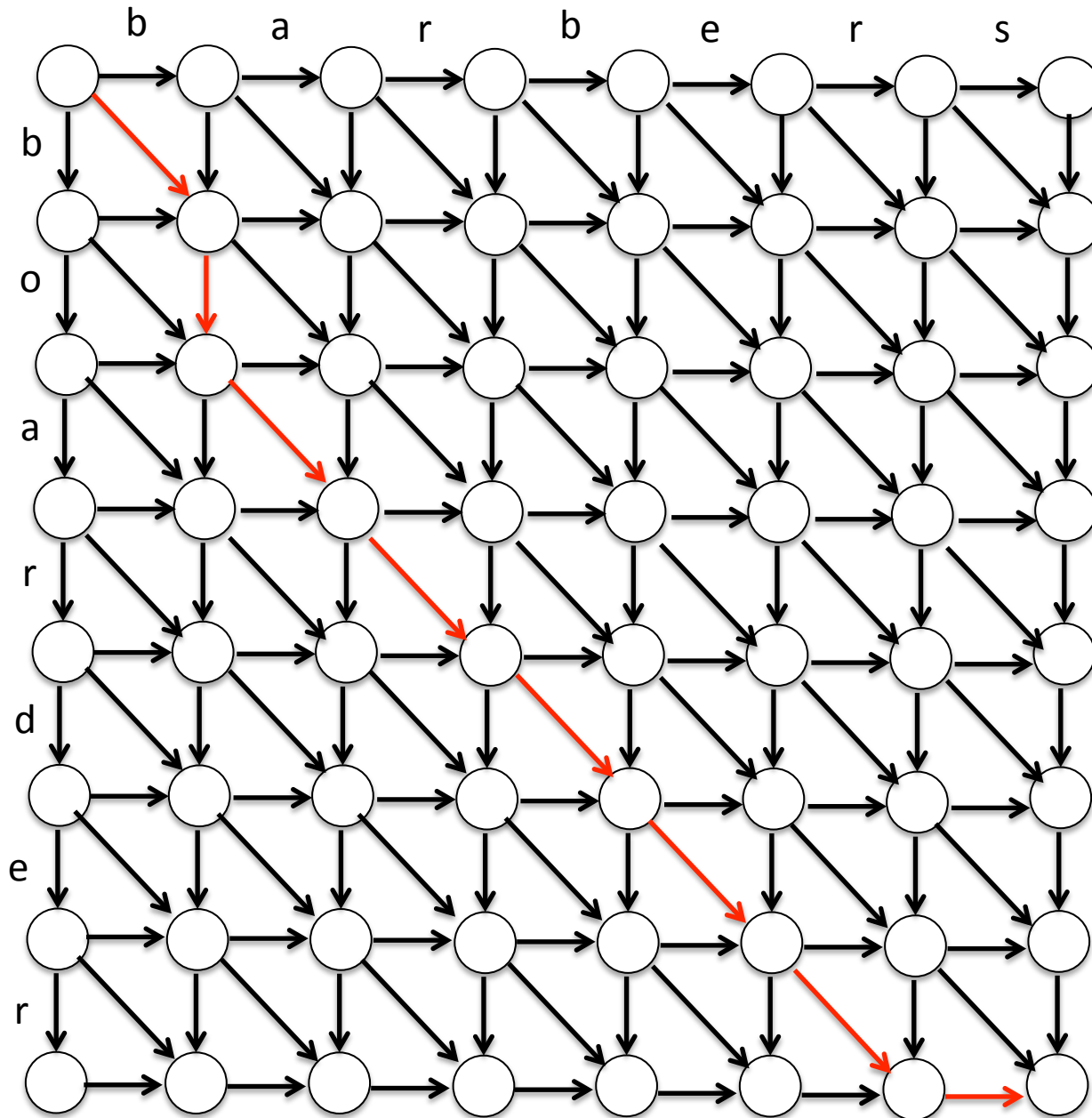


# Edit Distance --- Digraph of subproblems



Blue: cost 0  
Black: cost 1

# Edit Distance --- Digraph of subproblems



**red path**  
corresponds to  
optimal  
alignment