Homework #3

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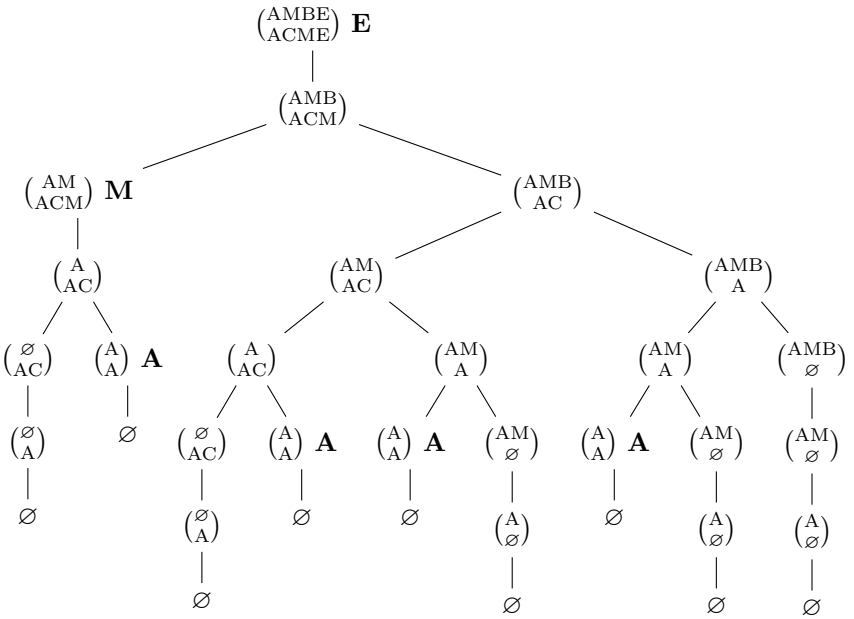
1 Matrix Multiplication

	1	2	3	4
1	0	$20^{[1]}$	$35^{[2]}$	$65^{[3]}$
2	X	0	$12^{[2]}$	$28^{[3]}$
3	X	X	0	$6^{[3]}$
4	X	X	X	0

Therefore, the minimum scalar operations can be achieved via $(((A_1 \times A_2) \times A_3) \times A_4)$

2 Longest Common Subsequence

2.1 Recursion Tree



Therefore, the longest common substring is AME.

2.1.1 Trace Table

	∅	A	M	B	E
∅	0	**0**	0	0	0
A	0	1	**1**	1	1
C	0	1	**2**	1	1
M	0	1	**2**	**2**	2
E	0	1	2	2	**3**

Therefore, the longest common substring is AME.