Quiz-5 (E): Design and Analysis of Algorithms (Spring-2024)
Solution

Given a chain of four matrices A_1, A_2, A_3, A_4, with $p_0=4$, $p_1=5$, $p_2=6$, $p_3=7$ and $p_4=8$. Using the bottom-up algorithm of Dynamic Programming for matrix-chain multiplication (studied in the class), find $m[1,4]$. Show the completely filled m and s tables, where m table is used for cost calculation and s table is used for path calculation.

m table

	1	2	3	4
1	0	120	288	512
2		0	210	490
3			0	336
4				0

s table

	1	2	3	4
1		1	2	3
2			2	3
3				3
4				