# Exercise 9. Answer Sheet

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***Problem 1.*** (40 points) Find an optimal parenthesization of a matrix-chain product whose sequence of dimensions is <5, 10, 3, 12, 5, 50, 6>. Show your work (costs matrix **m,** number of multiplications).
(5,10),(10,3),(3,12),(12,5),(5,50),(50,6)

Put your answer here.
Cost matrix: 2010

***Problem 2.*** (60 points) Write a program implementing the algorithms Matrix-Chain-Order and Print-Optimal-Parens given in the lecture. Upload your code. Using your program, find the optimal parenthesization for the following matrix-chain products and show your **m** and **s** matrices.

a) (20 points) p = [30,35,15,5,10,20,25]

Put your answer here.
Matrix-Chain-Order: 15125

b) (20 points) p = [10,20,10,15,20,10]

Put your answer here.
Matrix-Chain-Order: 7500

c) (20 points) p = [100,10,100,1,1000,100]

Put your answer here.
Matrix-Chain-Order: 112000