| COS 454/554 Fall 2021 Class Exercise 1 | 3 questions; 2 pgs. | 2021-09-23 |
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Today Matrix-Chain-Order; dynamic prog.; alg. analysis. §§ 15.\{2,3\}; review: 2.*. Next class Divide and conquer; $\S \S 4.0-4.2$. §§ 15.4,5.
Reminders Newsgroup. Reading. Coding. Practice. Don't fall behind.

1. List the members of your group below. Underline your name.
2. Depict tables similar to those in Figure 15.5 of the textbook for Matrix-ChainOrder on the following input:

| matrix: | $A_{1}$ | $A_{2}$ | $A_{3}$ | $A_{4}$ | $A_{5}$ |
| ---: | :---: | :---: | :---: | :---: | :---: |
| dimension: | $100 \times 30$ | $30 \times 100$ | $100 \times 30$ | $30 \times 70$ | $70 \times 10$ |

3. (a) Provide pseudocode for binary search of an array of ints.
(b) Provide a brief English explanation of why your pseudocode is correct.
(c) Prove the correctness of your pseudocode using loop invariants, etc.
