Exam 1 Practice Problems

Part 4 – Leontief Input-Output Models

1. An economy has 3 sectors: service, farming and logging. The input-output matrix for this economy is given by A and there is an external demand of 323 units of service, 646 units of farming and 1292 units of logging.

$$A = \begin{array}{c} \\ S \\ F \\ L \end{array} \begin{array}{c} \begin{array}{ccc} S & F & L \end{array} \\ \begin{bmatrix} 0.2 & 0.3 & 0.2 \\ 0.1 & 0.4 & 0.4 \\ 0.2 & 0.1 & 0.1 \end{bmatrix} \end{array}$$

a) What does the entry A_{21} mean?

b) If one unit of a resource is worth \$1,000,000, the production of \$2,000,000 of logging requires how much service, farming and logging?

c) How much service, farming and logging must be produced in this economy to meet the internal and external demands?