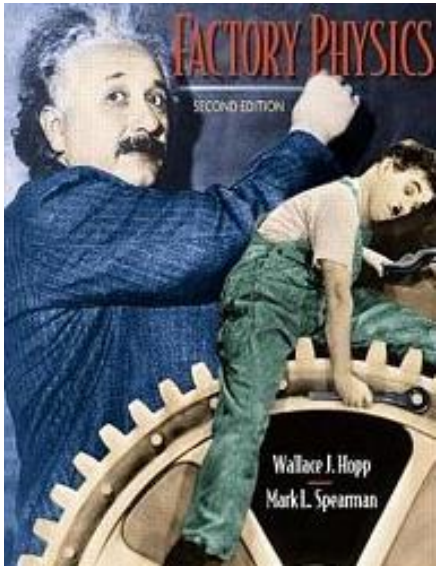
Operations Research



HYUNSOO LEE

Announcement

- Homework #2's due – March 19th

Exercise (I) – Toy Example

- In Factory
  - 2 material → 2 Products

	Product 1	Product 2
Material 1	1	2
Material 2	3	1

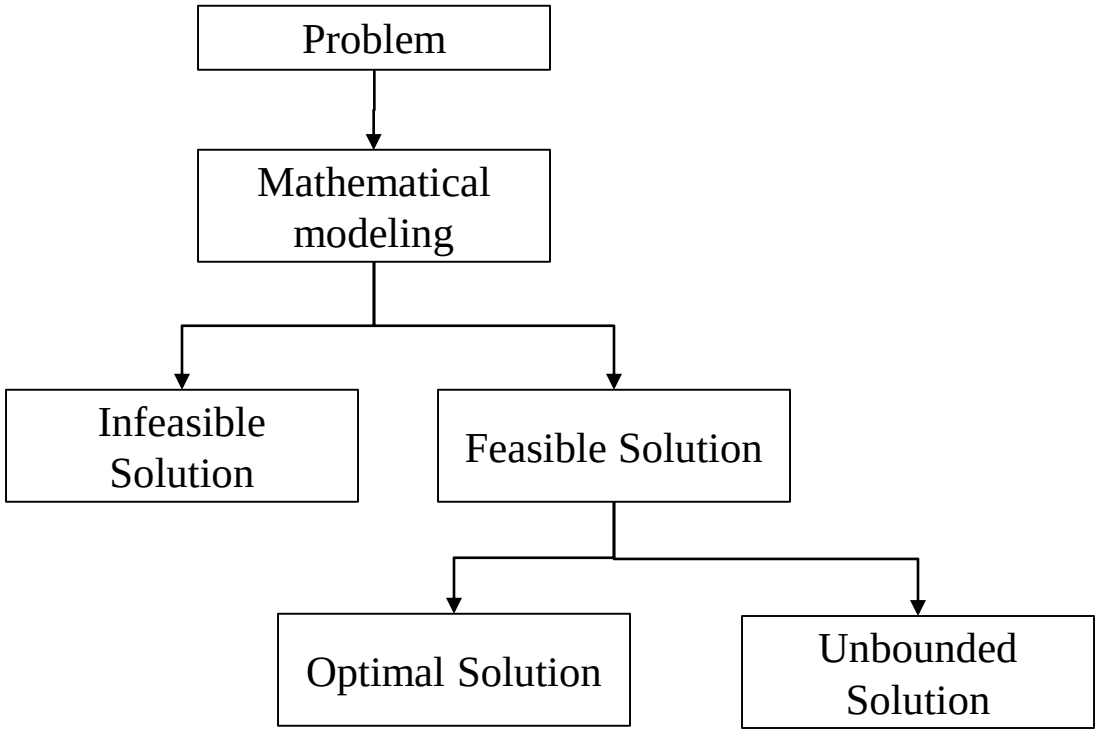
- Material 1's maximum amount = 10
- Material 2's maximum amount = 10
- Maximum demand for Product 1 = 2
- Maximum demand for Product 2 = 3
- Profit for Product 1 = 3
- Profit for Product 2 = 2

Exercise (II)

- Solution → ?

Exercise in Chapter II

- Procedures of Operations Research



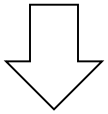
Operations Research

- History of "Operations Research"

Blackett's Circus

Scientific Modeling
&
Solution

Optimization



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Operations Research

- Mathematical Programming
  - Linear Programming
  - Non-Linear Programming
  - Stochastic Programming

Mathematical Programming (1)

- General Forms of Mathematical Programming

Mathematical Programming (2)

- Linear Programming / Non-Linear Programming / Stochastic Programming

Linear Programming (1)

- General Forms of Linear Programming

Linear Programming (2)

- Characteristics
  - Convex / Concave
  - One or Line

Linear Programming (5)

- Philosophy of Linear Programming

Linear Programming (6)

- In Constraints

Linear Programming (7)

- In Objective Function

Linear Programming (8)

- In L.P.
  - Can you model a Problem?
  - What's your first Basic solution?
  - What's your objective function value?

- Limitations of L.P.
  - Two limitations