

# Chapter 1

## First Chapter

Mathematical programming is also known as operation research. Mathematical programming is divided into two parts. Namely, Linear mathematical programming and Non-linear mathematical programming.  
Let us look at an example.

**Example.** Pen Industry

| Model:           | $A_1$ | $A_2$ | Total Availability (per day) |
|------------------|-------|-------|------------------------------|
| Man power/labor: | 10 h  | 5 h   | 100 h                        |
| Raw materials:   | 6 kg  | 10 kg | 120 kg                       |
| Profit(Tk) :     | 5     | 5     |                              |

Model this problem.