

Mathematical Model for Nurse Staffing

Objective

Minimize the number of nurses that the hospital needs to hire for the planning period.

Parameters

- T : Number of days in the planning period.
- $Period$: The planning period for nurse staffing.
- $Demand_t$: The demand for nurses on day t , for $t = 1, 2, \dots, T$.

Decision Variables

- N : The number of nurses to hire.

Mathematical Formulation

$$\begin{array}{ll}\text{Minimize} & N \\ \text{subject to} & N \geq Demand_t \quad \forall t = 1, 2, \dots, T \\ & N \geq 0\end{array}$$