(1) F - $i \in F$ facilities, facility set.
(2) C - $j \in C$ customers, customer set.

(1) f_i - $i \in F$ opening cost, facility opening cost.
(2) c_{ij} - $i \in F, j \in D$ transportation cost, the cost for transport item from facilities to customers.
(3) d_j - $j \in C$ demand, demand of customers.

(1) x_i - $i \in F$ location decision, whether a facility will be open.
(2) z_{ij} - $i \in F, j \in D$ assignment, assign customers to facilities.

$$\textbf{min} \sum_{i \in F} \sum_{j \in C} c_{ij} d_j z_{ij} + \sum_{i \in F} f_i x_i \tag{1}$$

$$\textbf{subject to} \sum_{i \in C} z_{ij} = 1, \qquad \forall j \in F \tag{2}$$

$$\sum_{j \in F} z_{ij} \leq M x_i, \qquad \forall i \in C \tag{3}$$

$$z_{ij} \in \{0, 1\}, \qquad \forall i \in C, j \in F \tag{4}$$

$$x_i \in \{0, 1\}, \qquad \forall i \in C \tag{5}$$