$$\text{Maximize} \quad \sum_{i \in N} \sum_{l \in L} w_i^{g,l} \tag{1}$$

subject to:

$$\text{Assignment:} \quad \sum_{k \in K} w_i^{a,k} \leq 1 \qquad \forall i \in N \tag{2}$$

$$\sum_{l \in L} w_i^{g,l} \leq 1 \qquad \forall i \in N \tag{3}$$

$$\text{Robot Usage:} \quad \sum_{i \in N} w_i^{a,k} \geq \text{use}_k^a \qquad \forall k \in K \tag{4}$$

$$\sum_{i \in N} w_i^{a,k} \leq n \cdot \text{use}_k^a \qquad \forall k \in K \tag{5}$$

$$\sum_{i \in N} w_i^{g,l} \geq \text{use}_l^g \qquad \forall l \in L \tag{6}$$

$$\sum_{i \in N} w_i^{g,l} \leq n \cdot \text{use}_l^g \qquad \forall l \in L \tag{7}$$

$$\text{Precedence:} \quad w_i^{g,l} \leq \sum_{k \in K} w_i^{a,k} \qquad \forall i \in N, \forall l \in L \tag{8}$$

$$g_i^l \geq a_i^k - M_G \cdot (1 - z_i^{k,l}) - M_G \cdot (2 - \text{use}_k^a - \text{use}_l^g) \qquad \forall i \in N, k \in K, l \in L \tag{9}$$