# Decision Variables:

+ X[***i, j, k***] = 1 if staff ***i*** work on phase ***k*** of day ***j***, 0 otherwise

+ Y[***i, j***] = 1 if staff ***i*** have a day off on day ***j***, 0 otherwise

# Constraints:

+$\sum_{1\le k\le 4} X[i, j, k] \le 1$ , for all $1 \le i \le N, 1 \le j \le D$

+$\sum_{1\le k\le 4} X[i, j, k] = 0$, for all j s.t Y[i, j] = 1

+$\sum_{1\le k\le 4} X[i, j, k] + X[i, j+1, 4] = 1$, for all j s.t Y[i, j] = 0

+$a \le \sum_{1 \le i \le 4} X[i, j, k] \le b$ , for all $1 \le k \le 4, 1 \le j \le D$

+$m[i] = \sum_{1 \le j \le 4} X[i, j, 4]$, for all $1 \le i \le N$

+$n \ge m[i]$ , for all $1 \le i \le N$

# Objective: n min