Numerical Optimization, 2021 Fall

Project 1

Your Name

Your ID

Due on 14:59, Oct 14, 2021

1 Literature Review

Please write a literature review to discuss the current research status of the following problem when $N \leq M$.

$$\max_{I} \quad \sum_{i,j=0}^{M-1} |W_{i,j}| \cdot I_{ij}$$

$$\text{s.t.} \quad \sum_{j} I_{ij} = N, \qquad \forall i \in \{0, \ldots, M-1\}$$

$$\sum_{i} I_{ij} = N, \qquad \forall j \in \{0, \ldots, M-1\}$$

$$I_{i,j} \in \{0, 1\}, \qquad \forall i, j \in \{0, \ldots, M-1\}$$

Your discussion should be **at least two pages** long, and should include the following content

1. The current algorithm for solving this problem

2. The framework of the algorithm