School Planning Problem

Instance:

A set of n teachers, each with a desired salary s_i, $i \in [n]$, a set of m students, each with a demand (in hours) of h_j, $j \in [m]$. Also, a minimum number of H hours and a relationship between teachers and students: for each student $j \in [m]$, the set $P(j) \subseteq [n]$ are the teachers who can possibly assist them.

Solution:

A selection of teachers $P \subseteq [n]$ and a selection of students $A \subseteq [m]$, such that for each student $j \in A$ at least one teacher in $P(j)$ is selected. Moreover, the total hours of the selected students, $\sum_{j \in A} h_i$ must be at least H.

Objective:

Minimize the total salaries $\sum_{i \in P} s_i$ of the selected professors.

File Information

File	Best Known Value
file1.csv	73
file2.csv	84
file3.csv	102