Problem J
Robot Dispatch Problem
Time limit: 2 seconds

Let us consider a sensing field on which sensors are deployed. These sensors will monitor their surroundings and report where events occur. For convenience, the occurrence of each event is described as one point in the sensing field (e.g., the center of the sensors that detect the event). Furthermore, there also exist a number of robots arbitrarily distributed in the sensing field. When some events occur, robots will be asked to move to the locations of these events to do analysis and reaction. To improve the efficiency of dispatch, each event location should be visited by exactly one robot. The sensing field contains no obstacles, so a robot is free to move to any position in the sensing field. However, since events may not last for a long time, robots should move to event locations as fast as possible. Thus, once an event location is assigned to a robot, this robot will move straight to that event location.

The robot dispatch problem is formulated as follows:

> Suppose that a set of distinct event locations $\hat{\mathcal{L}} = \{l_1, l_2, \cdots, l_n\}$ are reported by sensors in the sensing field. We are given a set of robots $\hat{\mathcal{R}} = \{r_1, r_2, \cdots, r_n\}$ used to analyze events. Let $d(r_i, l_j)$ be the Euclidean distance between the current position of a robot $r_i \in \hat{\mathcal{R}}$ and an event location $l_j \in \hat{\mathcal{L}}$, where $d(r_i, l_j) \geq 0$. For each event location l_j in $\hat{\mathcal{L}}$, this problem asks how to assign one robot to visit it, such that the total moving distance of robots in $\hat{\mathcal{R}}$ can be minimized.

Please write a program to calculate the best assignment of robots. You will be given the distance between each event location and every robot (in a 2D array). The output of your program should be the overall moving distance of robots based on your assignment.

Technical Specification

1. There are 10 test cases.
2. $10 \leq n \leq 50$.
3. The value of each $d(r_i, l_j)$ item must be a positive integer.
4. $10 < d(r_i, l_j) < 100$.

Input Format

Each test case contains an integer n followed by an $n \times n$ array, where $n > 1$. The (i, j)-th element in the array is the distance $d(r_i, l_j)$ between robot r_i and event location l_j. The last test case is followed by a line containing a single 0.

Output Format

The output for each test case is the total moving distance of robots.

Sample Input

```
2
3 7
8 9
3
40 60 15
25 30 45
55 30 25
0
```

Sample Output for the Sample Input

```
12
70
```