

Problem: Wizards

Introduction

30th February is the Annual Magician's Day, since it is the birthday of the Great Archmage Luxiputrius. The National Association of Wizards and Sorcerers has decided to organize several shows on this day throughout the country. There are several cities where these events can be held. However, in a given city only one wizard can perform: it would be too dangerous to allow two wizards to cast spells in the same city at the same time. The wizards live in ivory towers, usually far from the cities. They do not like travelling: a wizard refuses to go a distance of more than 50 km from their home (most probably because the popular Teleport Amulets only have a range of 50 km). The National Association of Wizards and Sorcerers would like to organize as many shows as possible on the Annual Magician's Day. Your job is to determine how many shows can be held.

Input

Each input file begins with two numbers n ($1 \leq n \leq 1000$), the number of cities, and m ($1 \leq m \leq 1000$), the number of wizards. This is followed by $n + m$ lines, each containing two coordinates (in km). The first n of these lines describe the position of the cities, the next m lines describe the position of the towers of the wizards. The coordinates are not necessarily integer.

Output

Output is a single number, the maximum number of shows that can be held on one night. At most one show can be organized in every city, and a wizard can perform no more than one show a day. The number in the output should be terminated by a new line character 10.

Sample Input	Sample Output
4 4 10 0 70 0 150 0 220 0 60 0 110 0 190 0 0 0	4