# 3 Love-ly Bus

For some reason, the FSU buses are receiving an influx of passengers to the Love building, and it is now the most popular transportation option on campus. To accommodate future growth you need to monitor the activity. For each stop, the drivers recorded how many students boarded and exited, and now they need answers to several questions about the route.

## 3.1 Input

- The first line contains two integers, $N$ and $Q$, representing the number of stops and the number of queries respectively.
- The next $N$ lines each contain two integers, $A_i$ and $B_i$, representing the number of passengers who board and exit the stop $i$ respectively. The first number on the line is the number of passengers who board and the second is the number of passengers who exit.
- The following $Q$ lines each contain two integers, $L$ and $R$, representing a query asking for the total number of passengers who boarded the bus between stops $L$ and $R$, inclusive.

## 3.2 Output

Each line of the output will be an integer corresponding to the number of total passengers who boarded the bus between $L$ and $R$.

## 3.3 Sample Input/Output

| Sample Input | Sample Output |
|---|---|
| 5 3<br>4 0<br>3 2<br>2 1<br>5 3<br>1 4<br>1 3<br>2 4<br>1 5 | 9<br>10<br>15 |

## 3.4 Explanation

- Query 1 (1, 3): 4 + 3 + 2 = 9
- Query 2 (2, 4): 3 + 2 + 5 = 10
- Query 3 (1, 5): 4 + 3 + 2 + 5 + 1 = 15