Overview: Calculate the angle between pairs of points

Description: You are climbing up a mountain. You notice that you can describe the the profile of your climb as a sequence of *n* points, namely p_1, p_2 … p_n, such that there is a straight line connecting each pair of adjacent points. You want to know the angle of each of these lines. Note that your climb may involve steps that go down or backwards.

Filename: bug4.{java, cpp, py}

Input: The first line contains a single integer *n*, the number of points in the sequence. The next *n* lines contains two integers a_i and b_i which, denoting the x and y coordinates of the point p_i.

Output: Print a single sequence of *n*-1 floating point values correct to 3 decimal places. The i^{th} value denotes the angle between p_i and p_{i+1}, in degrees, as a value between -180 and 180. Print each value on a new line.

Assumptions:

$1 \le n \le 1{,}000$
$0 \le a_i \le 1{,}000{,}000{,}000$
$0 \le b_i \le \le 1{,}000{,}000{,}000$
$a_i \ne a_{i+1}$
$b_i \ne b_{i+1}$

Sample Input:
```
4
1 1
2 2
3 3
4 2
```

Sample Output:
```
45.000
45.000
-45.000
```