Yanu in Movie theatre

Yanu is a great fan of Harry Potter. So on the day of the movie release, Yanu rushes to the movie theatre to watch the movie. On the release of the 6th movie, on reaching the theatre she found a long queue for tickets already. As the distribution was about to start, the ticket counter did not have any change to start with. There are N+M people in queue, where N have Rs 10.00 and M have Rs 5.00. The ticket costs Rs 5.00.

Now Yanu is math geek too, now she wonders What is the probability that the theatre can always provide change.

Input

Each line contain N and M, separated by a space, End of Input is marked by 0 0 which should not be processed. Both N and M fits in integer range.

Output

For each input, output the respective probability up to 6 decimal digits.

Example

Input:
1 0
0 1
41 41
0 0

Output:
0.000000
1.000000
0.023810