Day 4: Binomial Distribution II

Objective

In this challenge, we go further with binomial distributions. We recommend reviewing the previous challenge's Tutorial before attempting this problem.

Task

A manufacturer of metal pistons finds that, on average, 12% of the pistons they manufacture are rejected because they are incorrectly sized. What is the probability that a batch of 10 pistons will contain:

1. No more than 2 rejects?
2. At least 2 rejects?

Input Format

A single line containing the following values (denoting the respective percentage of defective pistons and the size of the current batch of pistons):

```
12 10
```

If you do not wish to read this information from stdin, you can hard-code it into your program.

Output Format

Print the answer to each question on its own line:

1. The first line should contain the probability that a batch of 10 pistons will contain no more than 2 rejects.
2. The second line should contain the probability that a batch of 10 pistons will contain at least 2 rejects.

Round both of your answers to a scale of 3 decimal places (i.e., 1.234 format).