Day 5: Normal Distribution II

Objective

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

Task

The final grades for a Physics exam taken by a large group of students have a mean of $\mu = 70$ and a standard deviation of $\sigma = 10$. If we can approximate the distribution of these grades by a normal distribution, what percentage of the students:

1. Scored higher than 80 (i.e., have a $grade > 80$)?
2. Passed the test (i.e., have a $grade \geq 60$)?
3. Failed the test (i.e., have a $grade < 60$)?

Find and print the answer to each question on a new line, rounded to a scale of 2 decimal places.

Input Format

There are 3 lines of input (shown below):

```
70 10
80
60
```

The first line contains 2 space-separated values denoting the respective mean and standard deviation for the exam. The second line contains the number associated with question 1. The third line contains the pass/fail threshold number associated with questions 2 and 3.

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

Output Format

There are three lines of output. Your answers must be rounded to a scale of 2 decimal places (i.e., 1.23 format):

1. On the first line, print the answer to question 1 (i.e., the percentage of students having $grade > 80$).
2. On the second line, print the answer to question 2 (i.e., the percentage of students having $grade \geq 60$).
3. On the third line, print the answer to question 3 (i.e., the percentage of students having $grade < 60$).