Nested Logic

HackerRank

Your local library needs your help! Given the expected and actual return dates for a library book, create a program that calculates the fine (if any). The fee structure is as follows:

1. If the book is returned on or before the expected return date, no fine will be charged (i.e.: $fine = 0$).
2. If the book is returned after the expected return *day* but still within the same calendar month and year as the expected return date, $fine = 15 \text{ Hackos } \times \text{ (the number of days late)}$.
3. If the book is returned after the expected return *month* but still within the same calendar year as the expected return date, the $fine = 500 \text{ Hackos } \times \text{ (the number of months late)}$.
4. If the book is returned after the calendar *year* in which it was expected, there is a fixed fine of 10000 Hackos.

Input Format

The first line contains 3 space-separated integers denoting the respective day, $month$, and $year$ on which the book was *actually* returned.
The second line contains 3 space-separated integers denoting the respective day, $month$, and $year$ on which the book was *expected* to be returned (due date).

Constraints

- $1 \leq D \leq 31$
- $1 \leq M \leq 12$
- $1 \leq Y \leq 3000$
- $\text{It is guaranteed that the dates will be valid Gregorian calendar dates.}$

Output Format

Print a single integer denoting the library fine for the book received as input.

Sample Input

```
9 6 2015
6 6 2015
```

Sample Output

```
45
```

Explanation

Given the following return dates:
Actual: $D_a = 9, M_a = 6, Y_a = 2015$

Expected: $D_e = 6, M_e = 6, Y_e = 2015$

Because $Y_e \equiv Y_a$, we know it is less than a year late.
Because $M_e \equiv M_a$, we know it's less than a month late.
Because $D_e < D_a$, we know that it was returned late (but still within the same month and year).

Per the library's fee structure, we know that our fine will be $15\ \textbf{Hackos}\ \times\ (\#\ \textbf{days late})$. We then print the result of $15 \times (D_a - D_e) = 15 \times (9 - 6) = 45$ as our output.