

Disneyland Journey



You are planning a trip to Disneyland in the next year. Are you able to save money for it?

Create a program that checks if you can **save the money** for the Disneyland's journey. You have a **certain number of months** for which you can collect the money.

At the end of each month, you save 25% of the cost of the journey.

At the beginning of every odd month (except the first one) you spent 16% of the money collected so far for clothes and shoes.

Every **4th (fourth)** month **at the beginning of the month** your boss gives you a bonus. It is **25%** of the money collected so far.

If you save enough money for the journey, calculate how much money will be left for the souvenirs. Then print the following:

"Bravo! You can go to Disneyland and you will have {money} dollars for souvenirs."

If the saved money is less you should calculate how much money you need more. Then print the following:

"Sorry. You need {money} dollars more."

Both numbers should be **formatted** to the **2nd decimal place**.

Input

- On the **1st line** you will receive how much the journey will cost – a **real number** in the range [500.0...10000.0]
- On the **2nd line** you will receive the **number of months** for which you have to collect money – an **integer number** in the range [1...12]

Output

Print the output in the **format described above**.

Examples

Input	Output
1000 4	Bravo! You can go to Disneyland and you will have 87.50 dollars for souvenirs.
Comments	
You need 1000 dollars for the journey and you have 4 months to collect them. Every month you can save $1000 * 25\% \Rightarrow 250$ dollars. So, to the end of the 1st month you have 250 dollars . To the end of the 2nd month - $250 + 250 \rightarrow$ 500 dollars . To the beginning of the 3th month (odd month) you spent 80 dollars . ($500 * 16\%$) for clothes and shoes, then you save 250 dollars , so now you have 670 dollars . Last month is the fourth month and you save $670 + 167.5$ ($670 * 25\%$) + $25 =$ 1087.5 dollars . You have $1087.5 - 1000 =$ 87.5 dollars , so you can go to the trip.	
3265 3	Sorry. You need 1077.45 dollars more.