Problem Dec 31: New Year's Eve

Time limit: 1 second

Image generated using OpenAI's DALL-E.

You are at your parents house in Hamburg for New Year's Eve. The same procedure as every year. This year, however, is the first year that you are no longer a student. You moved to Berlin for your new job a month ago and while your salary is generous, you are still deeply indoctrinated by the student mindset to save every penny. The times at the pasta bar in university when you paid per plate and not by weight remain fresh in your mind. Only your friend Katya could stack the pasta higher than you, but if she boasted her talents she had trouble to eat it in one sitting so most lunch breaks ended in a tie. Good times.

Well, times change and so do the challenges that an almost-still-student is faced with in his daily life. Over the next year, you plan to visit your family at least n times. There is a quite good train connection between Hamburg and Berlin but it costs 100€ per round-trip. The train company sells different discount options. The Bahncard 25[1] costs a euros and reduces the price of every trip by 25% for one year. Likewise, there are the Bahncard 50 and the Bahncard 100. They cost b and c euros respectively and cut the price in half or let you take the train for free. The prices for these discount options change frequently so you wait for a good offer and try to find the cheapest option given the number of trips that you will make.

Input

The input consists of:

- One line with an integer n ($0 \leq n \leq 50$), the number of family visits you plan next year.
- One line with three integers a, b, c ($1 \leq a, b, c \leq 1000$), the prices for Bahncard 25, 50, and 100, respectively.

Output

Output the option that, combined with the cost of your n trips, is the cheapest out of "`Bahncard 25`", "`Bahncard 50`", "`Bahncard 100`", or "`no Bahncard`". If there are multiple answers, you may output any one of them.

Sample Input 1	Sample Output 1
`12` `70 200 800`	`Bahncard 100`

Sample Input 2	Sample Output 2
`11` `70 200 800`	`Bahncard 50`

[1]The Bahncard is a fictional concept. Any similarity with existing products or companies is purely coincidental.

Sample Input 3

```
6
70 200 800
```

Sample Output 3

```
Bahncard 50
```

Sample Input 4

```
5
70 200 800
```

Sample Output 4

```
Bahncard 25
```

Sample Input 5

```
3
70 200 800
```

Sample Output 5

```
Bahncard 25
```

Sample Input 6

```
2
70 200 800
```

Sample Output 6

```
no Bahncard
```