# 2014 ... AND THE ZINC ZYGOSPHENE

During the book *"The Masked Lady ... and the Zinc Zygosphene"* our heroine came across an admirable accumulation of antiquities arranged in a row. Remarking that while the first two were only worth 1ℤ— and 2ℤ— (the currency for the folkloric P—), she then declared each successive artefact was worth *"as much as the previous two combined!"*. At the conclusion of the story, asked to select some of the ancient articles as a reward for her services, she picked some with a total value equal to that of the story's Zinc Zygosphene and, avoiding upsetting the arrangement too much, no two of which had been adjacent in the row.

In the book the Zinc Zygosphene was worth 50 ℤ—:

- The first antiquities in the row were valued (in ℤ—) at 1, 2, 3, 5, 8, 13, 21 and 34;
- Our heroine picked those worth 3ℤ—, 13ℤ— and 34ℤ—;
- She did not select those worth 5ℤ— and 8ℤ—, in place of the one worth 13ℤ—, as those antiquities were adjacent.

Write a program that reads in a single integer $v$ ($1 \le v \le 1{,}000{,}000{,}000$) giving the value of the Zinc Zygosphene. You should output a row of integers, in increasing order, giving the values for the chosen antiquities. There is a solution for all possible inputs.

## SAMPLE INPUT 1

```
50
```

## SAMPLE OUTPUT 1

```
3 13 34
```

## SAMPLE INPUT 2

```
81845
```

## SAMPLE OUTPUT 2

```
55 6765 75025
```