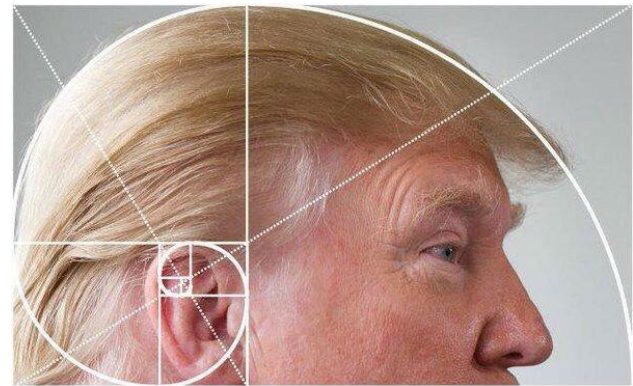
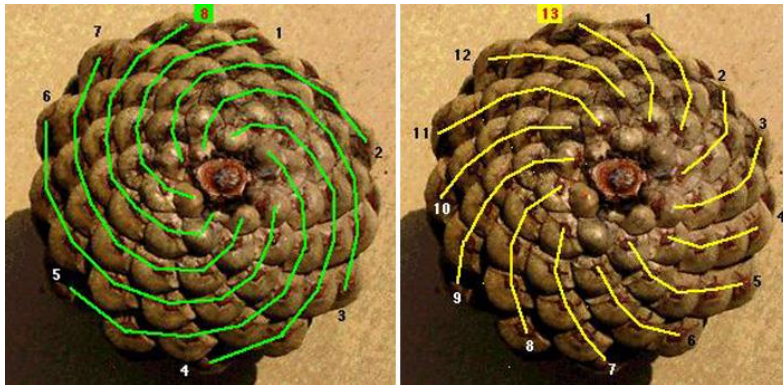


Big Fibonacci

<http://acm.cs.nthu.edu.tw/problem/11364/>



Fibonacci Numbers

- 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89

- $x_0 = 0$

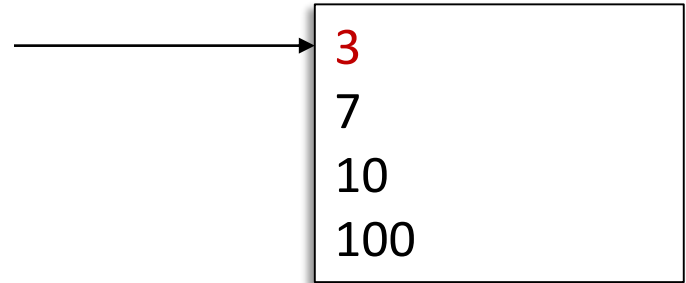
- $x_1 = 1$

- $x_n = (x_{n-2} + x_{n-1})$

- We want to write a program to analyze these numbers

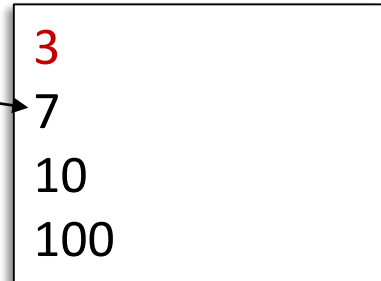
Input

- The first number describes the amount of Fibonacci numbers we want to find



Input

- For each following integer
 - Find the smallest Fibonacci number with that many of decimal digits



- e.g.,

- 7 → 1346269

- 10 → 1134903170

- 100 →

13447196675861531814197166417245678

86890850696275767987106294472017884

974410332069524504824747437757

Then ...

- For each Fibonacci number
 - Analyze the occurrence of its decimal digits

		0	1	2	3	4	5	6	7	8	9
7	1346269	0	1	1	1	1	0	2	0	0	1
10	1134903170	2	3	0	2	1	0	0	1	0	1
100	134471966....	7	11	7	5	15	8	12	17	10	8

i.e., '0' appears twice in "1134903170"

Required Output

7 1346269 0 1 1 1 1 0 2 0 0 1 ↵
10 1134903170 2 3 0 2 1 0 0 1 0 1 ↵
100 1344719667586153181419716641724567886890850696275767 987106294472017884974410332069524504824747437757 7 11 7 5 15 8 12 17 10 8 ↵

Available Resources

- List of the first 300 Fibonacci numbers
 - <http://www.maths.surrey.ac.uk/hosted-sites/R.Knott/Fibonacci/fibtable.html>
- List of 301st - 500th Fibonacci numbers
 - <http://www.maths.surrey.ac.uk/hosted-sites/R.Knott/Fibonacci/fibtable301.html>
- Fibonacci calculator
 - <http://www.maths.surrey.ac.uk/hosted-sites/R.Knott/Fibonacci/fibCalcX.html>