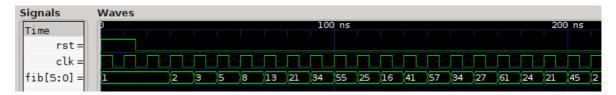
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The Virtual Learning Environment for Computer Programming

Fibonacci X95484_en

Design a sequential circuit that generates the Fibonacci series. The circuit will represent the numbers with n bits and will generate the Fibonacci numbers $mod\ 2^n$. At each cycle, a new number must be generated. The following waveform illustrates the behavior of the circuit.



The circuit must be designed to represent the numbers with 6 bits.

Specification

```
module fibonacci(clk, rst, fib);
input clk, rst;
output [5:0] fib;
```

Input

- *clk* is the clock signal.
- *rst* is the synchronous reset signal.

Output

• *fib* is the Fibonacci number generated at each cycle.

Problem information

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