

$$n = 1$$



1 ——— 1 way

Steps = 1 or 2 at a time

$$n = 2$$



(1, 1) ———

(2) ——— 2 ways

$$n = 3$$



(1, 1, 1)

(1, 2)

(2, 1)

} ——— 3 ways

$$n = 4$$



(1, 1, 1, 1)

(1, 2, 1)

(2, 1, 1)

(1, 1, 2)

(2, 2)

} ——— 5 ways

$$n = 5$$

→ (1, 1, 1, 1, 1)

(1, 2, 1, 1)

(2, 1, 1, 1)

(1, 1, 2, 1)

(1, 1, 1, 2)

(2, 2, 1)

(2, 1, 2)

(1, 2, 2)

- 8 ways

Fibonacci series

$$n = 1$$

1

$$n = 2$$

2

$$n = 3$$

3

(1+2)

$$n = 4$$

5

(3+2)

$$n = 5$$

8

(5+3)

$$n = 6$$

|

$$8 + 5 = 13$$

return the
fib(n+1)
number of ways

Fibonacci Series

0 1 2 3 4 5 6 7
0, 1, 1, 2, 3, 5, 8, 13, - - - -

$n = 12$

return n;

}

else if

return fib(n-1) + fib(n-2);

}

{
 Time complexity →
 Space complexity →
}