

Fibonacci functions

The functions below used to find the Fibonacci numbers base on an input number represent for the position of the expected number in the Fibonacci series. The first function, named `f`, is written in recursive style, while the second one is written in iterative style.

1.

```
def f(n):  
    if n < 0:  
        print('Incorrect input')  
    elif n == 0:  
        return 0  
    elif n == 1 or n == 2:  
        return 1  
    else:  
        return (f(n-1) + f(n-2))
```

2.

```
def ff(n):  
    a, b = 0, 1  
    for i in range(0, n):  
        a, b = b, a + b  
    return a
```

Both functions perform the expected task, but the second one run much faster than the first one, hence it saves computing power and time.

```
%time ff(30)
```

```
Wall time: 0 ns
```

```
832040
```

```
%time f(30)
```

```
Wall time: 497 ms
```

```
832040
```