

junhoc_A6

November 18, 2018

0.0.1 Finding the sum of even Fibonacci numbers

Submitted by Junho Choi

For Problem 2 of Assignment 6, MACS30000

```
In [19]: def sum_of_even_fibonacci(upper_limit):
        '''
        Function to find the sum of even Fibonacci numbers
        given a certain upper limit.

        Input:
        - upper_limit: (int) integer that is the upper limit for
        findin the sum of even Fibonacci numbers.

        Returns:
        - summation: (int) the sum of even Fibonacci numbers
        under an upper limit.

        '''

        assertion_msg = "Upper limit should be an integer"
        assert type(upper_limit) == int, assertion_msg

        prev_num, now_num = (1, 1)

        summation = 0
        while now_num < upper_limit:
            if now_num % 2 == 0:
                summation += now_num
            holder_now = now_num
            now_num += prev_num
            prev_num = holder_now

        return summation

In [20]: print(sum_of_even_fibonacci(4000000))
```

4613732