

## Exercise: Fibonacci Sequence

The Fibonacci sequence  $F_n$  has the property that each number is the sum of the two preceding ones. It is thus defined by

$$F_n = F_{n-1} + F_{n-2}$$

This code preallocates a vector of size n for the fibonacci values.

```
n = 20;  
fib = ones(1,n);
```

**Task:** Calculate the first n=20 elements of  $F_n$  using a structure that loops through the elements of fib, beginning at 3, and sums up the two preceding elements.

```
for k = 3:n  
    fib(k) = fib(k-1) + fib(k-2);  
end
```

Plot the sequence for verification

```
plot(fib)
```

