Fibonacci

```
1  int fib(int n)
2  {
3     if(n==0||n==1){
4          return n;
5     }
6
7     return fib(n-1)+fib(n-2);
8
9  }
```

Fibonacci with ternary operator

```
1  int fib(int n)
2  {
3    return (n < 2) & n : fib(n-1) + fib(n-2);
4  }
```

Fibonacci with tail recursion

```
1  int fib_r(int n, int a, int b)
2  {
3      if(n==0)
4        return a;
5      if(n==1)
6        return b;
7      if(n==2)
8        return a+b;
9
10     return fib_r(n-1,b,a+b);
11 }
12
13 int fib(int n)
14 {
15   return fib_r(n,0,1);
16 }
```

Fibonacci using a loop

```
 1  int fib(int n)
 2  {
 3     if(n<2)
 4        return n;
 5
 6     int last=1, old_last=0;
 7     int i;
 8
 9     for(i=2;i<=n;i++){
10           int temp=last;
11           last=last+old_last;
12           old_last=temp;
13     }
14     return last;
15  }
```