n!

Fac(5) = 5x4x3x2x1 = 120

Fac(4) = 24

Fac(3) = 6

Fac(2) = 2

Fac(1) = 1

Fac(5){

int sp = Fac(4) = 4x3x2x1

}

5! = sp x 5

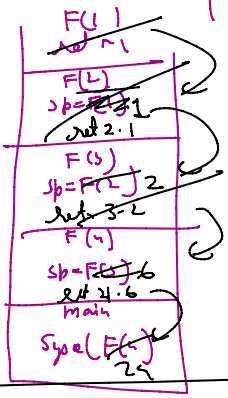
n · (n-1) · (n-2) ...

F(n-1) = (n-1) · (n-2) ... 1

F(n-2) = (n-2) (n-3) ... 1

F(n-3) = (n-3) ... 1

```
public static int Fac(int n ) {
        if(n==0) {
            return 1;
        }
//        BP : Fac(n)
//        SP : Fac(n-1)
        int sp = Fac(n-1);
        return sp*n;
    }
```



Pow(2, 8) Pow(a, b)

Bp →

sp →

$2^7, 2^6, 2$

2^9

a^b

2^8

$2^3 = (k, 7)$

sp

ret sp·2;

```
public static int Pow(int a, int b) {
//                BP : Pow(a,b)
//                SP : Pow(a,b-1)
            if(b==0) {
                return 1;
            }
            int sp = Pow(a, b - 1);
            return sp * a;
        }
```

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89 BP = Fib(7)

0 1 2 3 4 5 6 7 8

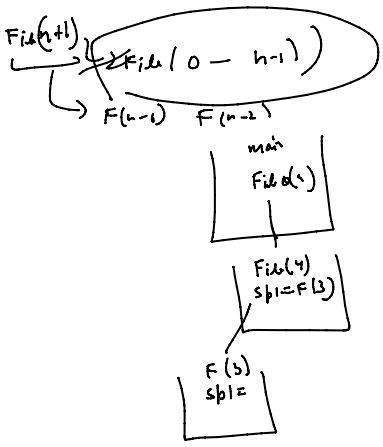
Fibo(nth)

Smaller subpbl

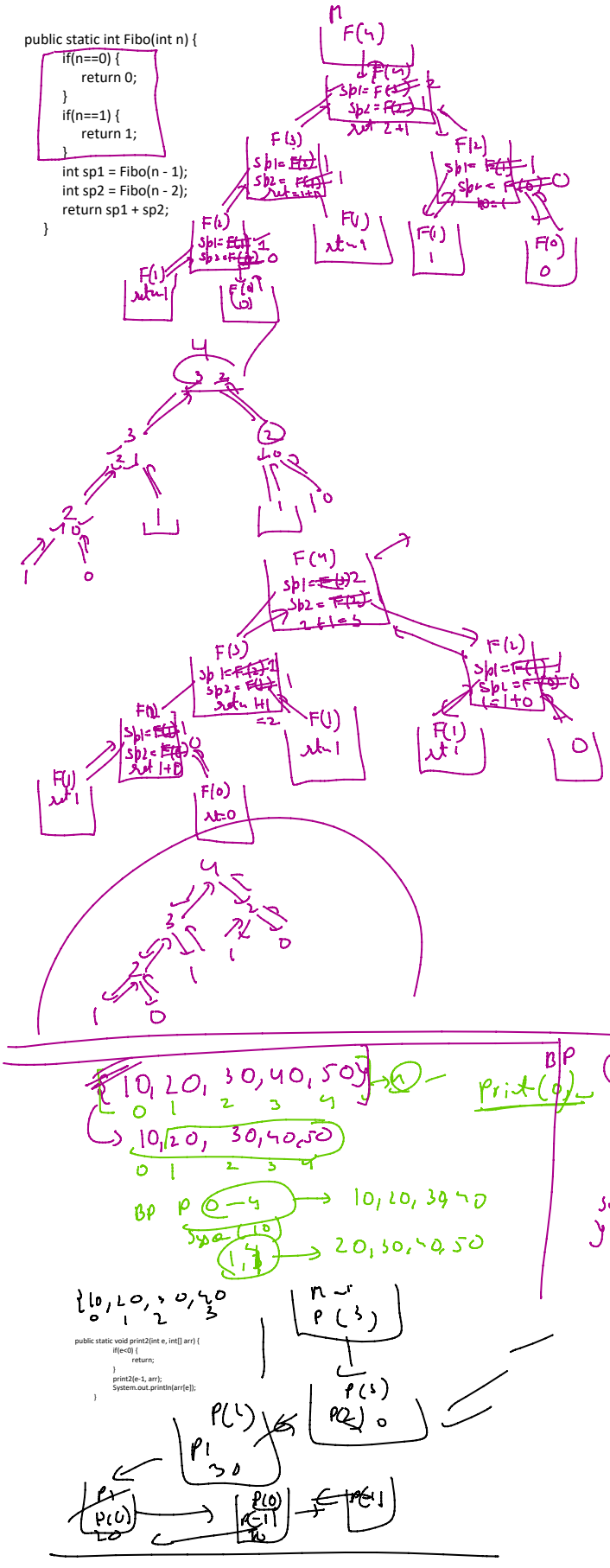
F(0) 1, 2, 3, 4 ... 6

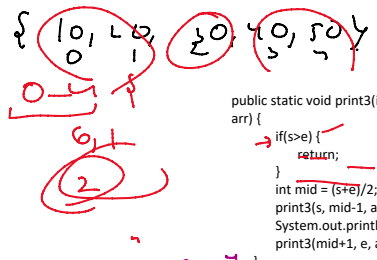
0, 1, 1, 2, 3, 5, 8, 13, 21

0 1 2 3 4 5 6 7 8




```
public static int Fibo(int n) {
    if(n==0) {
        return 0;
    }
    if(n==1) {
        return 1;
    }
    int sp1 = Fibo(n - 1);
    int sp2 = Fibo(n - 2);
    return sp1 + sp2;
}
```





```
public static void print3(int s, int e, int[]
arr) {
    if(s>e) {
        return;
    }
    int mid = (s+e)/2;
    print3(s, mid-1, arr);
    System.out.println(arr[mid]);
    print3(mid+1, e, arr);
}
```

```
public static void print3(int s, int e, int[]arr) {
    if(s>e) {
        return;
    }
    int mid = (s+e)/2;
    print3(s, mid-1, arr);
    System.out.println(arr[mid]);
    print3(mid+1, e, arr);
}
```