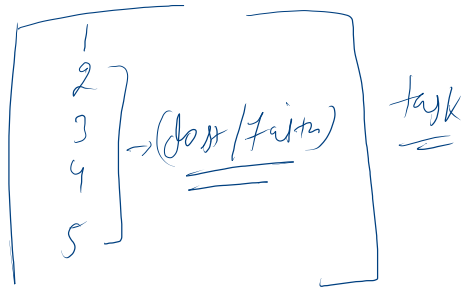


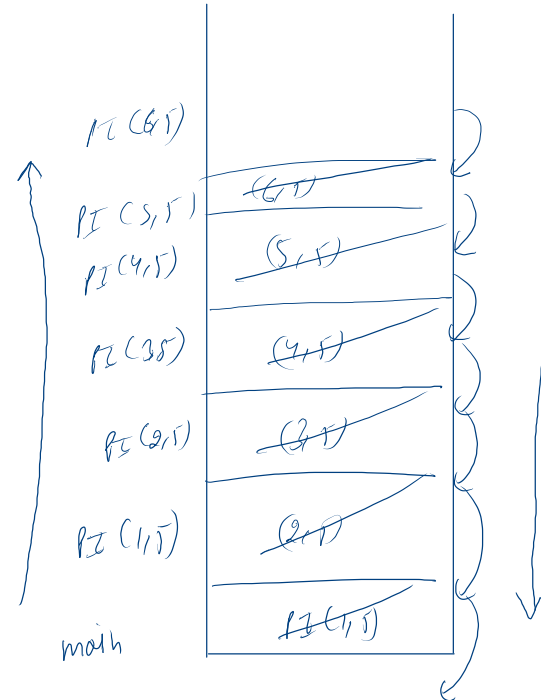
$(9, 5) \rightarrow (1, 5)$   
 $\downarrow$   
 $(2, 5)$

```
public static void printIncreasing(int a, int b) {
    if (a > b) {
        return;
    }

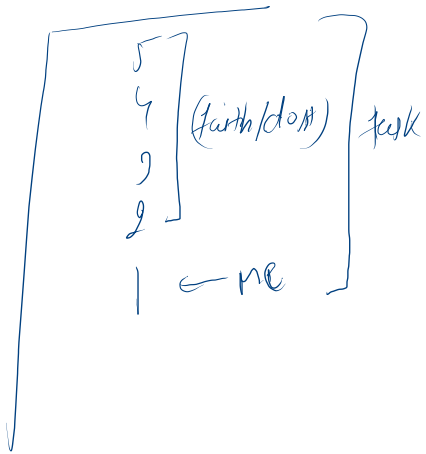
    System.out.println(a);
    printIncreasing(a + 1, b);
}
```



1  
2  
3  
4  
5



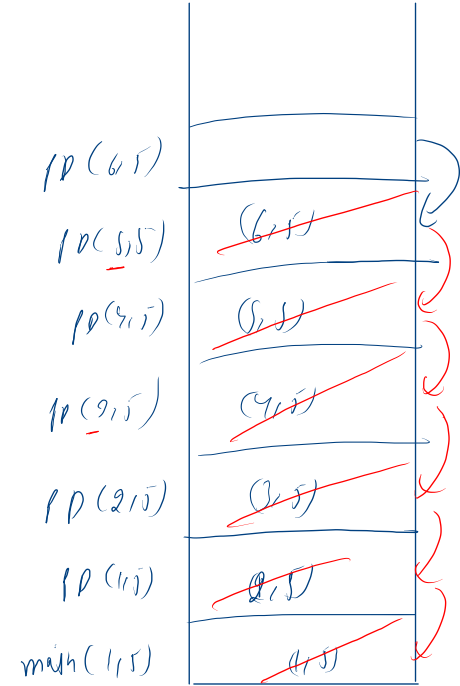
$(9, 6) \rightarrow (1, 5)$   
 $\downarrow$   
 $(2, 5)$

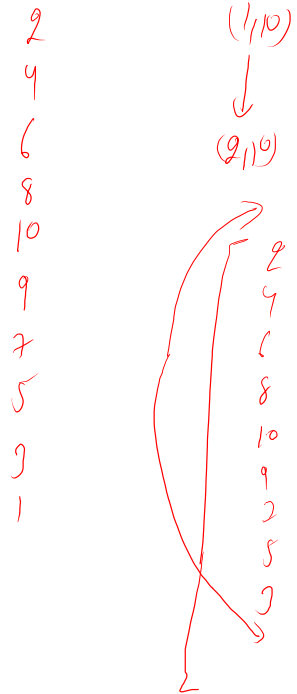


```
public static void printDecreasing(int a, int b) {
    if (a > b) {
        return;
    }

    printDecreasing(a + 1, b);
    System.out.println(a);
}
```

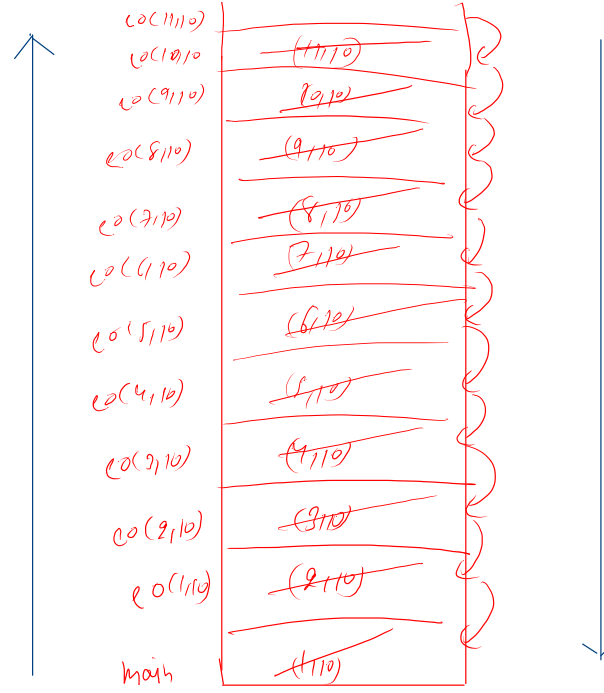
5  
4  
3  
2  
1





```
public static void printEvenOdd(int a, int b) {
    if (a > b) {
        return;
    }
    if(a % 2 == 0) System.out.println(a);
    printEvenOdd(a + 1, b);
    if(a % 2 != 0) System.out.println(a);
}
```

(pre) (post)



$$\text{fact}(n) = \text{fact}(n-1) \times n$$

$$n! = n \times (n-1)!$$

$$5! = (5 \times 4 \times 3 \times 2 \times 1) / 5$$

$$4! = (4 \times 3 \times 2 \times 1) / 4$$

$$3! = (3 \times 2 \times 1) / 3$$

$$2! = (2 \times 1) / 2$$

$$1! = (1) / 1$$

$$0! = 1$$

```
public static int factorial(int n){
    if(n == 0){
        return 1;
    }

    int smallAns = factorial(n - 1);
    return smallAns * n;
}
```

77777(0)		1	
77777(1)	77777(0)	1	1A = 1 x 1
7777(2)	77777(1)	2	1A = 1 x 2
777(3)	7777(2)	6	1A = 2
77(4)	777(3)	24	1A = 6 x 4
7(5)	77(4)	120	1A = 24 x 5
main	7(5)		