

# ② FACTORIAL OF A NUMBER (RECURSIVELY)

Expectation

$$f(5) = 5 \times 4 \times 3 \times 2 \times 1$$

Faith

$$f(4) = 4 \times 3 \times 2 \times 1$$

Expectation meet faith

$$f(5) = 5 \times f(4)$$

$$f(n) = 5 \times f(n)$$

P S V m {S[] a} {

Scanner s = new Scanner(System.in);

int n = s.nextInt();

int f = factorial(n);

sys.o(f);

}

P S int factorial(int n) {

if (n == 1) ①  
return 1;

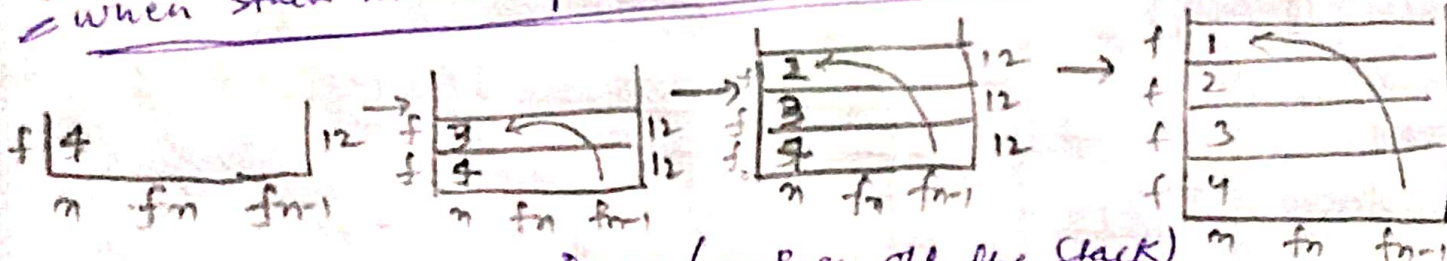
int fnm1 = factorial(n-1); ②

int fn = n \* fnm1; ③

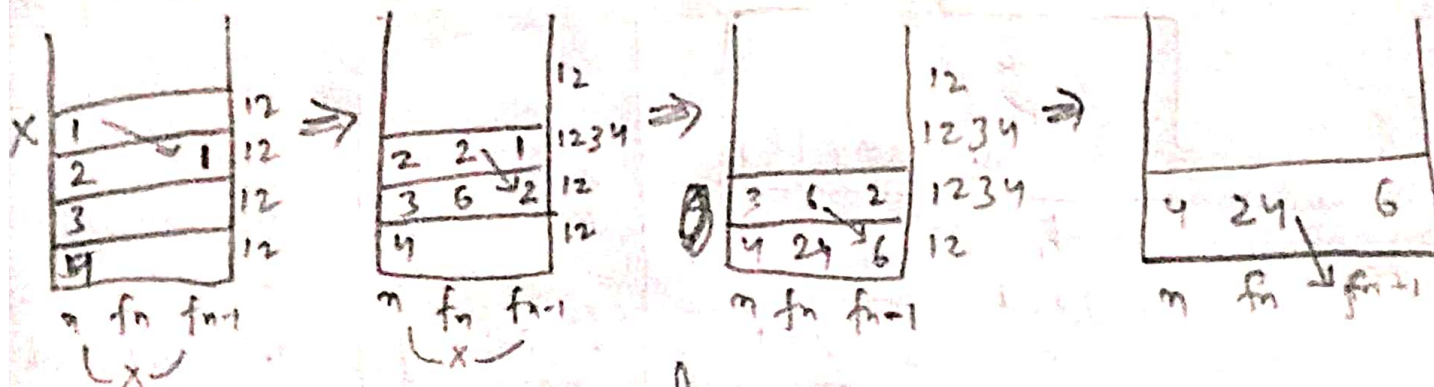
return fn; ④

}

When Stack moves up (or pushes in the stack)



When Stack moves Down (or Pops off the stack)



24 Returned