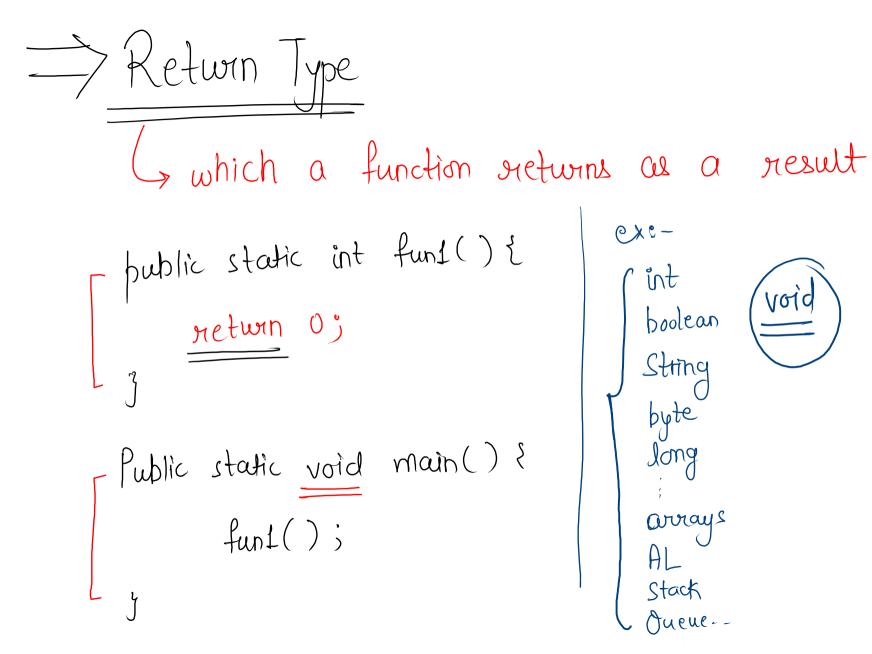
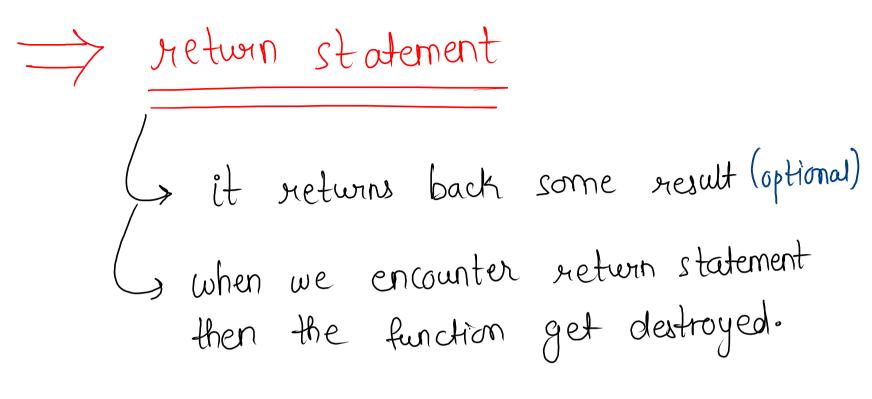
=> Functions > function is a piece of code > function declaration: - body > function calling: - where we piece of code main f' always called first S Parameterised f":- with para.

S Non-para f":- without para.





Note:

1) break statement destroys the loop

2) return statement destroys the function

ex:

void, int, boolean, string,

```
public class Main {
    public static int sum(int a, int b) {
        int s = (a + b);
        return s;
       // System.out.println(s);
    public static void main(String[] args) {
        int ans = sum(5, 6);
        System.out.println(ans);
```

```
ex:
```

```
public class Main {
    public static boolean isIt5(int a) {
        if ( a == 5 ) {
            return true;
        } else {
            return false;
    public static void main(String[] args) {
        boolean ans = isIt5(6);
        System.out.println(ans);
```

# Find product of the two numbers using function.

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int t = scn.nextInt();

    for (int i = 0; i < t; i++) {
        int a = scn.nextInt();
        int b = scn.nextInt();

        — int ans = findProduct(a, b);
        System.out.println(ans);
    }
}

public static int findProduct(int a, int b) {
    int prod = a * b;
    return prod;
}</pre>
```

## Swap x and y

$$\begin{array}{c}
\text{int } x = 5; \\
\text{int } y = 6; \\
\end{array}$$

$$\frac{1}{2} \int_{0}^{\infty} \frac{1}{1} dt = 6;$$

$$\int_{0}^{\infty} \frac{1}{1} dt = 5;$$

	temp	X	y
int temp = x;	5	5	6
$\alpha = y $ 5	5	6	6
y = temp;	5	6	5

# Swap x and y

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    int y = scn.nextInt();
    swap(x, y);
public static void swap(int x, int y) {
  \rightarrow int c = x;
    System.out.println("c = " + c);
 \rightarrow x = y;
    System.out.println("x = " + x);
    System.out.println("y = " + y);
```

}

System.out.println("x = " + x);
System.out.println("y = " + y);

# Swap x y z

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    int y = scn.nextInt();
    int z = scn.nextInt();
    swap(x, y, z);
}
public static void swap(int x, int y, int z) {
 \rightarrow int temp = z;
    System.out.println(x);
    System.out.println(y);
    System.out.println(z);
}
```

	(10)	(20)	(30)
temp	r	y	ユ
30	10	30 <u> </u>	30
80	10	<u>೨</u> 0	<i>)</i> 30
30	10	70	20
30	30	lo	20

#### Factorial of N

```
code
```

```
public static void main(String[] args) {
 Scanner scn = new Scanner(System.in);
 → int n = scn.nextInt();
 int ans = findFactorial(n);
    System.out.println(ans);
public static int findFactorial(int n) {
 \rightarrow int ans = 1;
  for (int i = n; i >= 1; i--) {
    ans = ans * i;
 -return ans;
```

```
\frac{dry \, \pi un}{n=6}
```

$$==$$
 ans = 1;

$$i = 6$$
,  $ans = 6$   
 $i = 5$ ,  $ans = 6 \times 5$   
 $i = 4$ ,  $ans = 6 \times 5 \times 4$ 

$$i=3$$
, and =  $6\times5\times4\times9$   
 $i=2$ , and =  $6\times5\times4\times9\times2$ 

### Find nCr.

Code

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int r = scn.nextInt();
    if (r > n) {
       return 0;
    int ans = solve(n, r);
    System.out.println(ans);
}
public static int solve(int n, int r) {
    int a = fact(n);
    int b = fact(n - r);
    int c = fact(r);
    int ans = (a / (b * c));
    return ans;
}
public static int fact(int a) {
    int ans = 1;
    for (int i = a; i >= 1; i--) {
        ans = ans * i;
    return ans;
}
```



