


## Example 2: $y = x^2$ as a Method

---

```
1 public class PrintSquares {
2     public static void main(String[] args) {
3         printSquare(7);
4         printSquare(9);
5     }
6     public static int sq(int x) { // x is a parameter
7         int y = x * x; // compute x^2
8         return y; // return the value
9     }
10    public static void printSquare(int n) {
11        System.out.println(n + "^2=" + sq(n));
12    }
13 }
```



## Example 2: $y = x^2$ as a Method

---

```
1 public class PrintSquares {
2     public static void main(String[] args) {
3         printSquare(7);
4         printSquare(9);
5     }
6     public static int sq(int x) { // x is a parameter
7         int y = x * x; // compute x^2
8         return y; // return the value
9     }
10    public static void printSquare(int n) {
11        System.out.println(n + "^2=" + sq(n));
12    }
13 }
```

the output:

```
7^2=49
9^2=81
```



# Method Call Stack

---

main

args

printSquare(7);



# Method Call Stack

---

main

args

```
printSquare(7);
```

printSquare

n

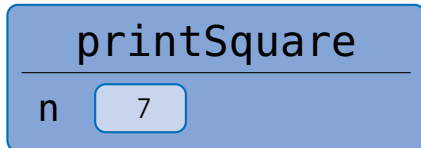
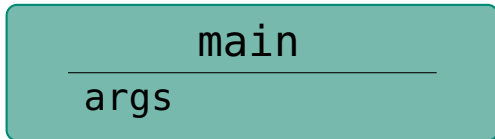
7

```
public static void printSquare(int n) {
```



# Method Call Stack

---



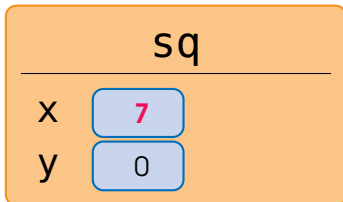
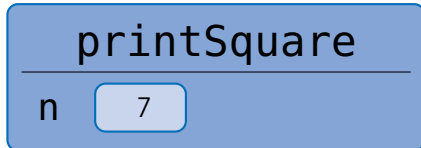
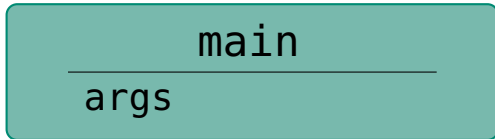
```
printSquare(7);
```

```
public static void printSquare(int n) {  
    System.out.println(n + "^2=" + sq(n));  
}
```



# Method Call Stack

---



```
printSquare(7);
```

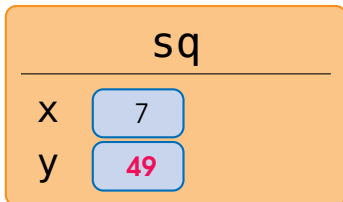
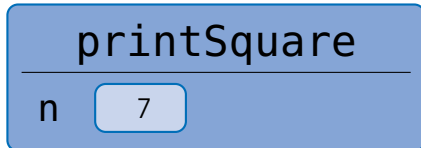
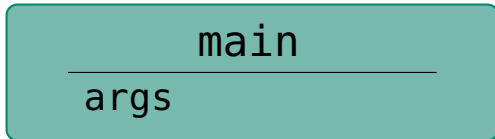
```
public static void printSquare(int n) {  
    System.out.println(n + "^2=" + sq(n));  
}
```

```
public static int sq(int x) {
```



# Method Call Stack

---



```
printSquare(7);
```

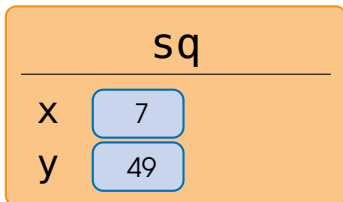
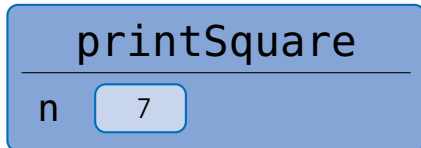
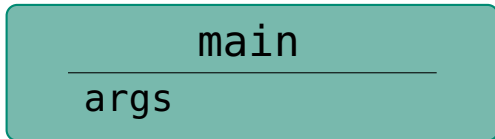
```
public static void printSquare(int n) {  
    System.out.println(n + "^2=" + sq(n));  
}
```

```
public static int sq(int x) {  
    int y = x * x;  
}
```



# Method Call Stack

---



```
printSquare(7);
```

```
public static void printSquare(int n) {  
    System.out.println(n + "^2=" + sq(n));  
}
```

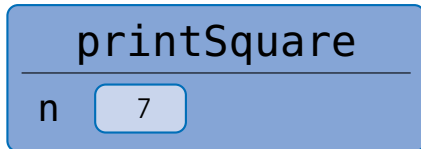
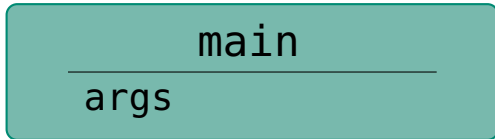
```
public static int sq(int x) {  
    int y = x * x;  
    return y;  
}
```





# Method Call Stack

---



printSquare(7);

$7^2=49$

```
public static void printSquare(int n) {  
    System.out.println(n + "^2=" + sq(n));  
}
```

evaluated to 49





# Method Call Stack

---

main

args

printSquare(7);

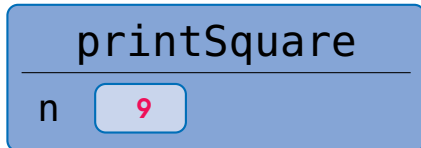
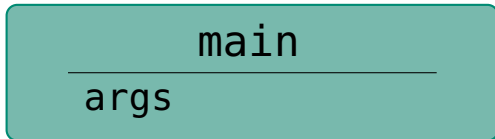
$7^2=49$

printSquare(9);



# Method Call Stack

---



```
printSquare(7);  
printSquare(9);
```

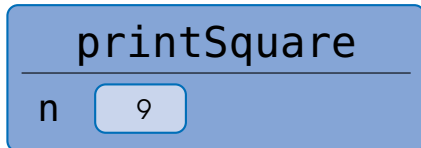
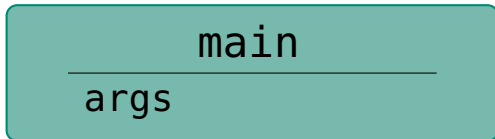
$7^2=49$

```
public static void printSquare(int n) {
```



# Method Call Stack

---



```
printSquare(7);  
printSquare(9);
```

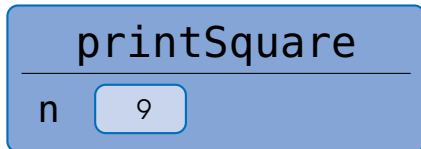
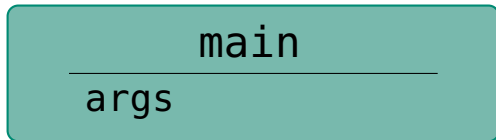
$7^2=49$

```
public static void printSquare(int n) {  
    System.out.println(n + "^2=" + sq(n));  
}
```



# Method Call Stack

---



```
printSquare(7);  
printSquare(9);
```

$$7^2=49$$

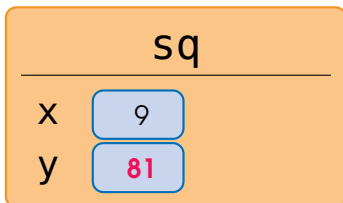
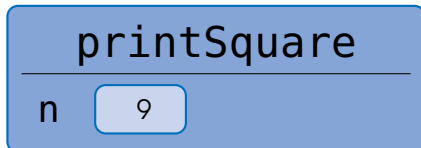
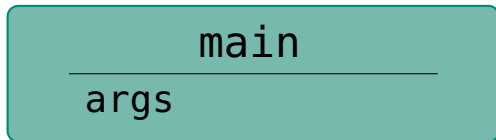
```
public static void printSquare(int n) {  
    System.out.println(n + "^2=" + sq(n));  
}
```

```
public static int sq(int x) {
```



# Method Call Stack

---



```
printSquare(7);  
printSquare(9);
```

$7^2=49$

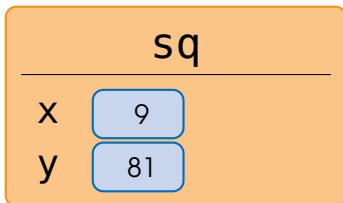
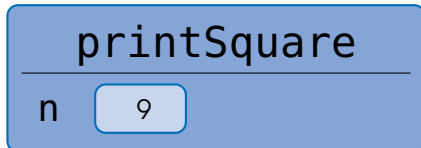
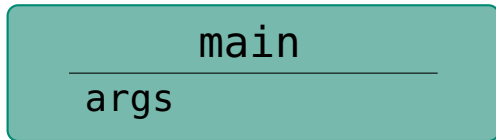
```
public static void printSquare(int n) {  
    System.out.println(n + "^2=" + sq(n));  
}
```

```
public static int sq(int x) {  
    int y = x * x;  
}
```



# Method Call Stack

---



```
printSquare(7);  
printSquare(9);
```

$7^2=49$

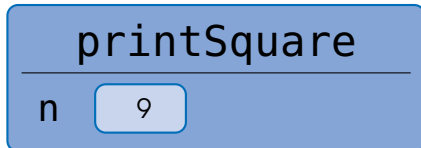
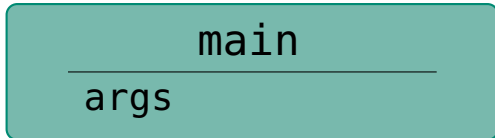
```
public static void printSquare(int n) {  
    System.out.println(n + "^2=" + sq(n));  
}
```

```
public static int sq(int x) {  
    int y = x * x;  
    return y;  
}
```



# Method Call Stack

---



```
printSquare(7);  
printSquare(9);
```

$7^2=49$   
 $9^2=81$

```
public static void printSquare(int n) {  
    System.out.println(n + "^2=" + sq(n));  
}
```

evaluated to **81**





# Method Call Stack

---

main

args

```
printSquare(7);
```

```
printSquare(9);
```

$7^2=49$

$9^2=81$