

Java Tutorial

BASIC RULES -1: DEMO

- 1. All code in Java must be part of a **class**
- 2. For code to run you need to have

```
public static void main(String[] args)
```

- 1. We mark the *beginning* and *end* of segments of code using

```
{
```

 and

```
}
```
- 2. All statements in Java must end in a semi-colon:

```
;
```

BASIC RULES - 2

- 1. Before Java variables can be used, they must be **declared**
- 2. Java variable must have a specific type:
 - a. `int`, `String`, `double`, `boolean` etc
- 3. Types can *never* change
- 4. Types are verified *before* the code even runs
 - a. Big difference between Python and Java

DEFINING FUNCTIONS. BASIC RULES

- 1. Functions must be declared as part of a class in Java
 - a. A function that is inside a class is called a “method”
 - b. All functions in Java are methods
- 2. To define a function in Java we use “public static”
 - a. Other ways are later
- 3. All parameters must have a declared type
- 4. Return value of the function must have a declared type
- 5. Functions in Java return only one value

DISCUSSION QUESTION - 1

How many errors can you find in the code on the right?

A: 1
B: 2
C: 3
D: 4
E: 5 or more

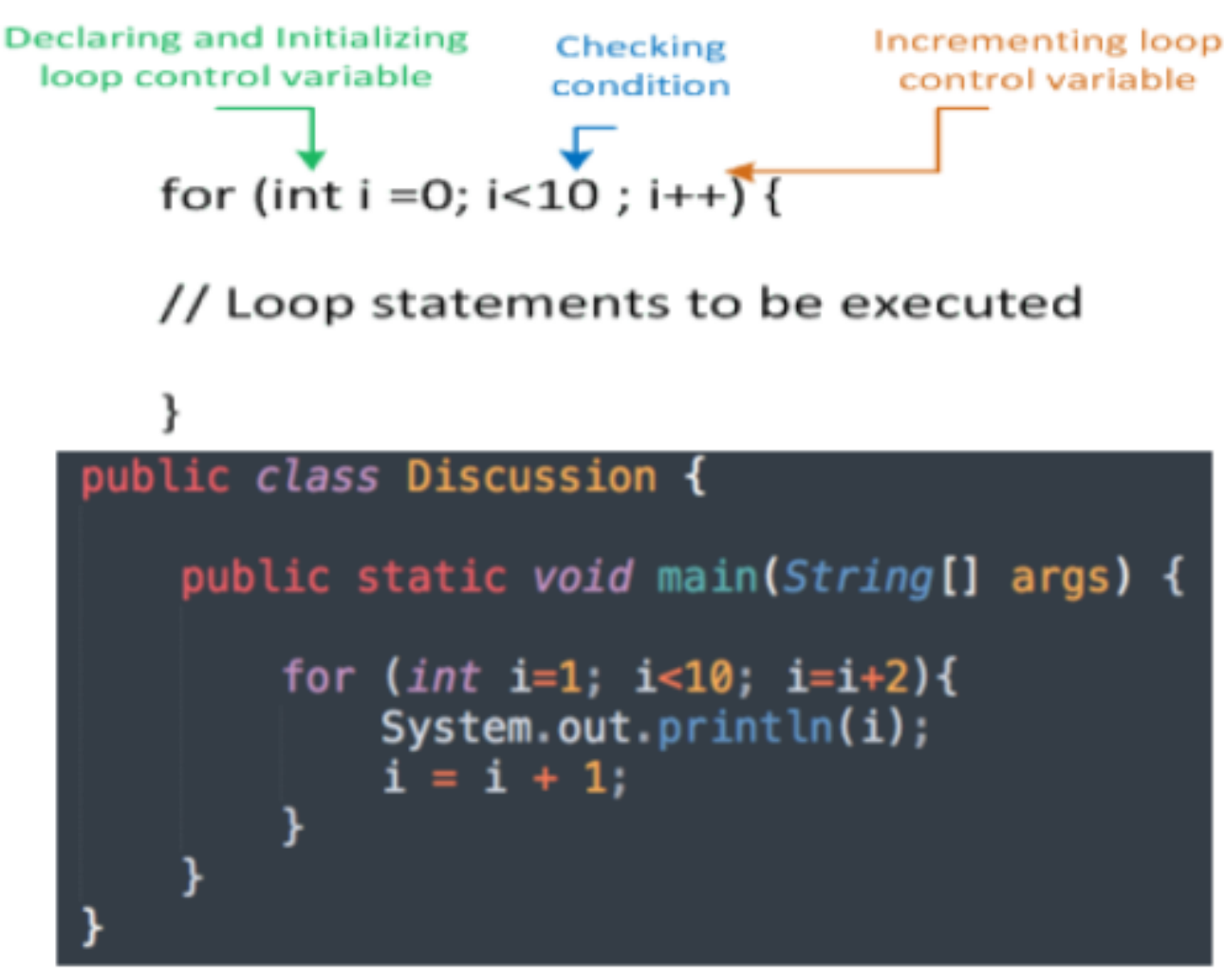
```
public class Discussion {  
    public static void main(String[] args) {  
  
        double y = 5.6  
        x = 10;  
  
        if (x < y):  
            System.out.println(y is smaller);  
  
        else {  
            x = x * y;  
            System.out.println(y);  
        }  
    }  
}
```

FOR LOOP IN JAVA

What is the output? *

A: 1, 3, 5, 7, 9
B: 1, 3, 5, 7, 9, 11
C: 1, 4, 7, 10
D: 1, 4, 7
E: None of the above

* Assume that the output does not have commas and each number is on a new line.



SHORT PRACTICE

Write a function *expand* that takes an integer and returns an integer array with numbers 1, 2.. up to (including) the parameter:

Example:
Input: 5
Output: [1, 2, 3, 4, 5]