

Creating a **JAVA** File

Boilerplate Code

```
public class JavaBasics {  
  
    public static void main(String[] args) {  
  
    }  
}
```

Output in JAVA

```
System.out.print("Hello World");
```

Output in JAVA

1. print

2. println

3. “\n”

Print Pattern

* * * *

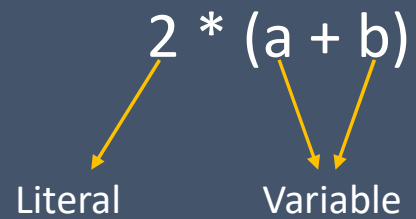
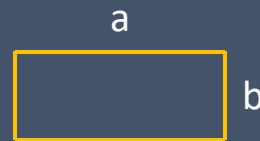
* * *

* *

*

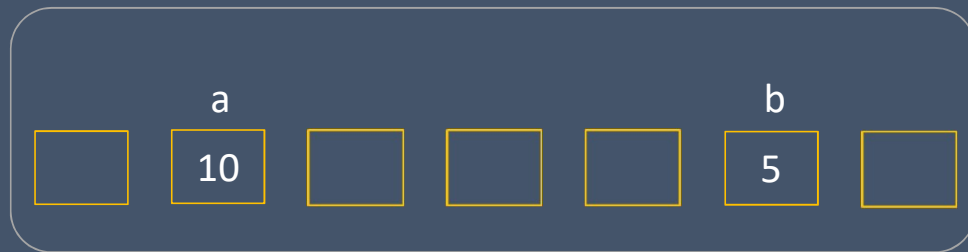
Variables in JAVA

a = 10, b = 5



Memory

Memory



Data Types in JAVA



Primitive

byte
short
boolean
int
long
float
double



Non-Primitive

String
Array
Class
Object
Interface

Size of Data Types

byte

short

char

boolean

int

long

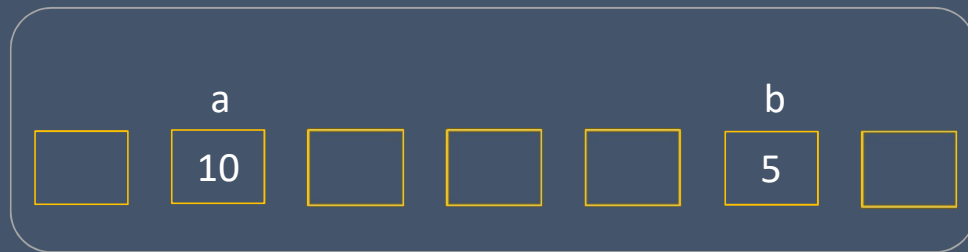
float

double

Sum of a & b

Sum in Memory

Memory



Comments in JAVA

// Single Line Comment!

/*

Multi

Line

Comment

*/

Input in JAVA

next

nextLine

nextInt

nextByte

nextFloat

nextDouble

nextBoolean

nextShort

nextLong

Sum of a & b

(Input from User)

Product of a & b

(Input from User)

Area of a Circle

(Input from User)

Type Conversion

Conversion happens when:

- a. type compatible
- b. destination type > source type

byte -> short -> int -> float -> long -> double

Type Casting

```
int marks = (int) (99.99f)
```

Type Promotion in Expression

1. Java automatically promotes each byte, short, or char operand to int when evaluating an expression.
2. If operand is long, float, or double the whole expression is promoted to long, float, or double respectively.

Type Promotion in Expression

// wrong

```
byte b = 5;
```

```
b = b * 2;
```

```
byte a = b * 2;
```

// right

```
byte b = 5;
```

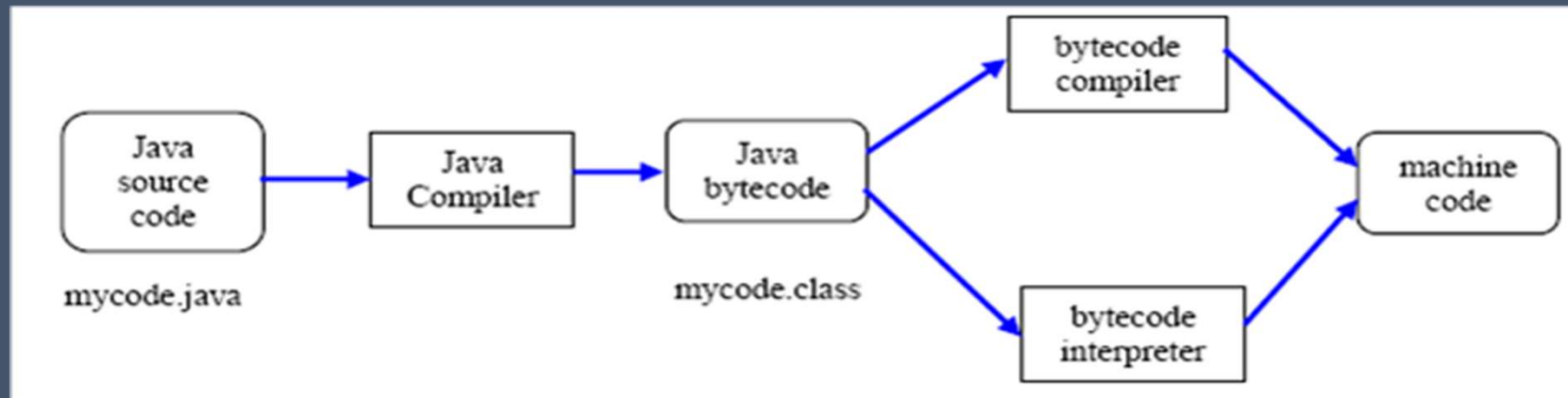
```
b = (byte) (b * 2)
```

How is our **Code** Running?



How is our Code Running?

Execution



Compilation