Mehdi Bouchachi

THE COMPLETE JAVA

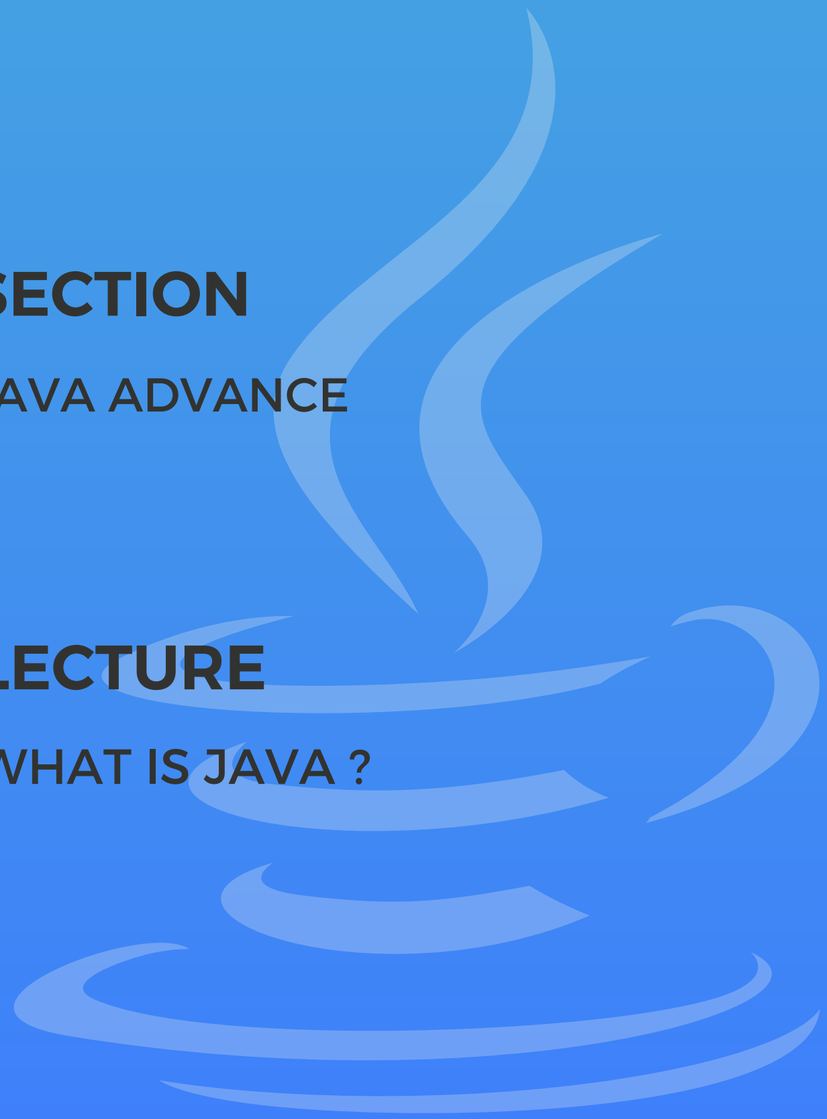
MehdiBouchachi

SECTION

JAVA ADVANCE

LECTURE

WHAT IS JAVA ?



WELCOME WELCOME WELCOME!

WHAT IS JAVA ?

BEFORE WE START

👉 Java is an **object-oriented programming** language.

👉 Created by James Gosling in 1992, to be used **as the brains** behind the smart application.

👉 It used in mobile application, backend development..

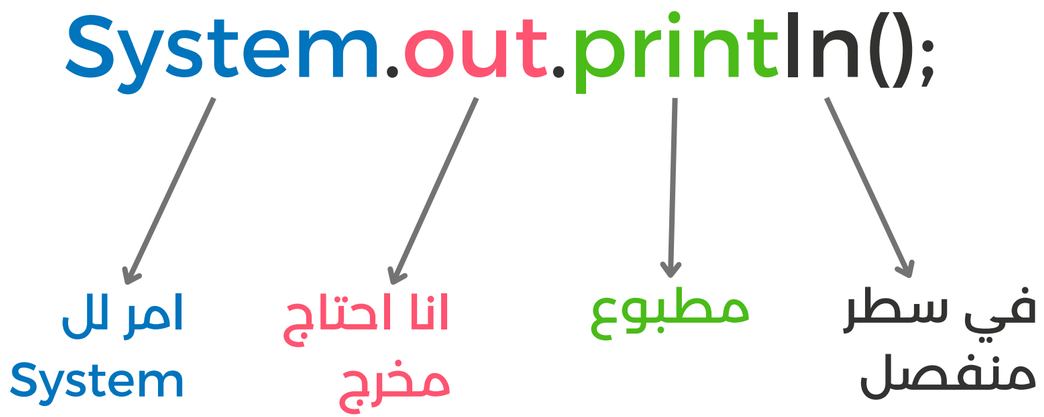
JAVA DEVELOPMENT KIT

JAVA DEVELOPMENT KIT

👉 JDK is a **tool** that the computer needs to **understand** the Java code you have written.

👉 It can be thought of as an **intermediary or translator** between the Java code and the operating system.

OUR FIRST JAVA PROGRAM



👉 **Print** in a **separate line** the words I'm going to type between ().

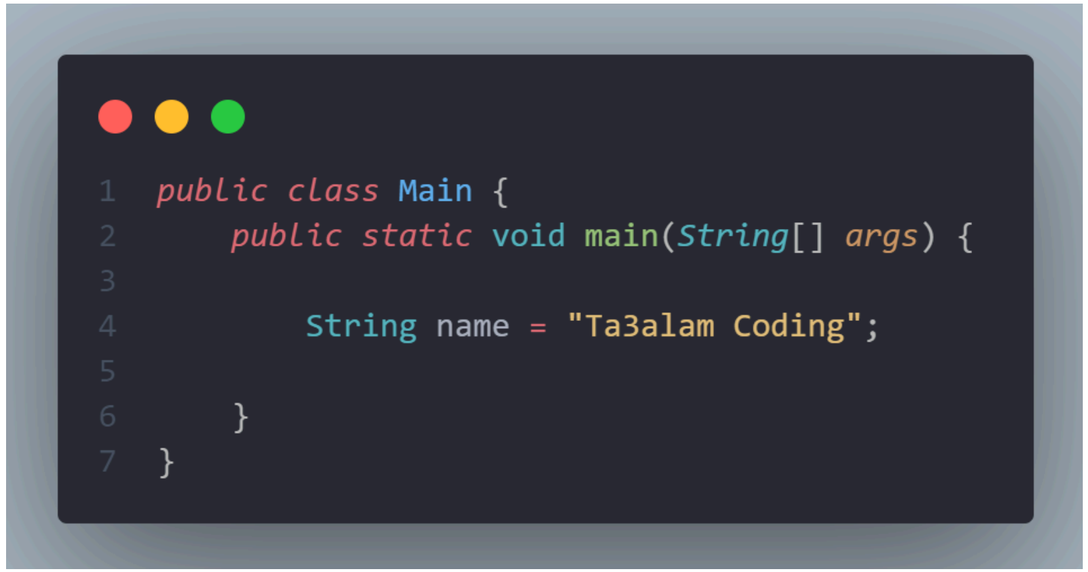
```java
public class Main {
    public static void main(String[] args) {

        System.out.println("Ta3alam Coding!");

    }
}
```

VARIABLES

DECLARATION

In order to create a variable in Java, we must specify two things :

- 👉 **The type** of data the variable will use.
- 👉 A **variable name** that expresses its content.



```java
public class Main {
    public static void main(String[] args) {

        String name = "Ta3alam Coding";

    }
}
```

VARIABLES

DATA TYPES

👉 Integer numbers: **byte, short, short, int, long.**

👉 Decimal numbers : **double, float.**

👉 Characters : **char** (stores a single character).

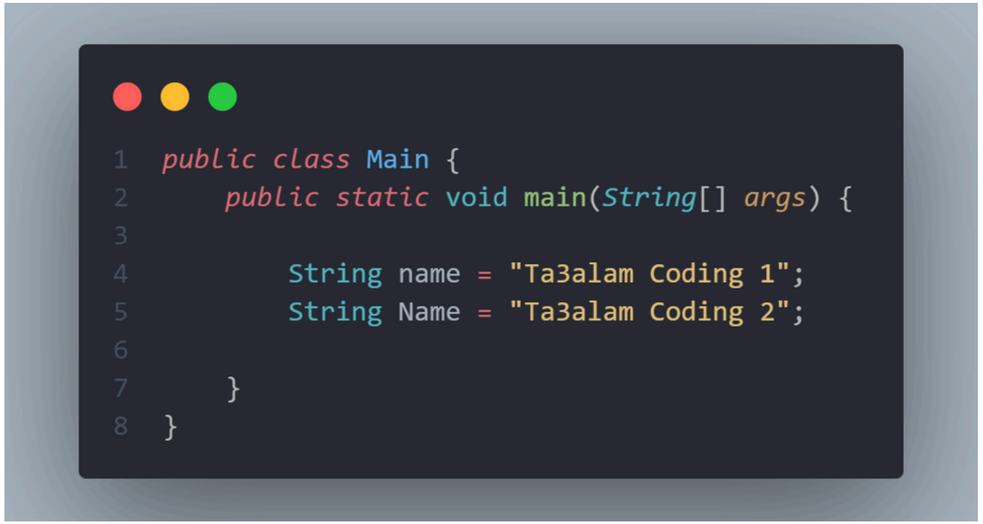
👉 Texts : **String.**

👉 Boolean: **boolean** (true/false).

VARIABLES

SENSITIVITY

👉 JAVA **differentiates** between **lowercase and uppercase letters**, i.e. variable **a** and variable **A** are not the same.



```java
public class Main {
    public static void main(String[] args) {

        String name = "Ta3alam Coding 1";
        String Name = "Ta3alam Coding 2";

    }
}
```

VARIABLES

METHODS OF NAMING VARIABLES (CANONICAL)

CAMEL CASE :

```
String MyFullName = "Ta3alam Coding";
```

PASCAL CASE :

```
String myFullName = "Ta3alam Coding";
```

SNAKE CASE :

```
String my_full_name = "Ta3alam Coding";
```

TYPE CASTING

TYPE CASTING

👉 It is the operation of **converting** a variable from one **data type to another**.

STRING TO NUMBERS

👉 A value can be **converted from text** to **integers or doubles only** when it is a **numerical value.**

```java
public class Main {
    public static void main(String[] args) {

        String stringNumber = "2024";
        int number = Integer.parseInt(stringNumber);
        double number1 = Double.parseDouble(stringNumber);

    }
}
```

TYPE CASTING

DOUBLE / INTEGER

👉 When we converting from **integer to decimal or the opposite.** Java takes care of it for u :) .

```java
public class Main {
    public static void main(String[] args) {

        double number = 14.26;
        int number1 = (int) number; //14
        double number2 = (double) number1; //14.00

    }
}
```

TYPE CASTING

NUMBERS TO STRING

👉 In this case, **any value** can be converted to String.

```java
public class Main {
    public static void main(String[] args) {

        int number = 2024;
        String stringNumber = String.valueOf(number);

    }
}
```

CONDITIONS

الترميز	المعنى	مثال
==	تساوي	a == b
!=	لا يساوي	b != a
<	أصغر	a < b
>	أكبر	a > b
>=	أكبر أو يساوي	b>=a
<=	أصغر أو يساوي	b<=a

CONDITIONS

```java
public class Main {
    public static void main(String[] args) {

        boolean isRaining = true;
        double temperature = 18.4;

        if (isRaining) {
            System.out.println("Take your umbrella");
        } else if( temperature <= 20){
            System.out.println("Coldy take your jacket");
        } else {
            System.out.println("Wonderful day");
        }

    }
}
```

SWITCH CASE
ARE SAME AS C IN JAVA

LOOPS ARE SAME AS C IN JAVA

SCANNER INPUT

SCANNER

👉 to enter any data from user we use Java's **Scanner Class.**
👉 u can input **data** when the program is **running**.

we have :

String : nextLine()
int : nextInt()
float : nextFloat()
double : nextDouble()
boolean : nextBoolean()

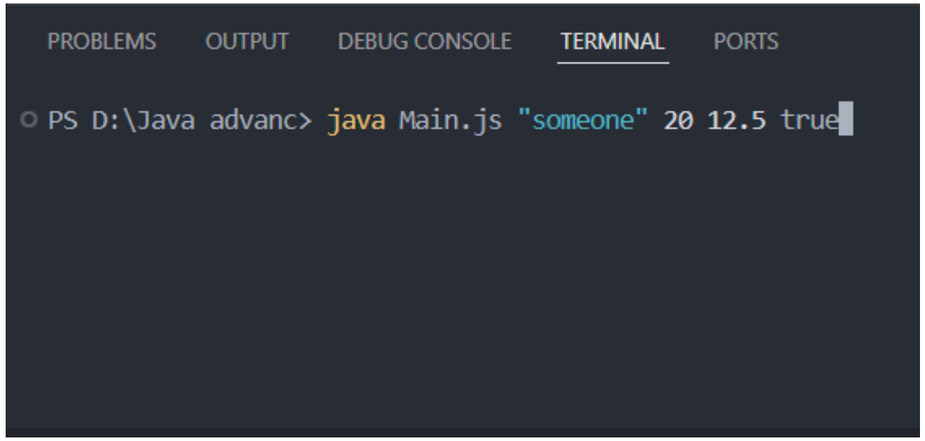
```java
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {

        Scanner in = new Scanner(System.in);

        String name = in.nextLine();
        int age = in.nextInt();
        double moy = in.nextDouble();
        boolean isMale = in.nextBoolean();

    }
}
```

COMMAND LINE ARGUMENTS INPUT

ARGS INPUT

👉 we can input data **only before execution in the command line** (terminal).
👉 args data type : **String** (that's why we always convert numerical values.).

```java

public class Main {
    public static void main(String[] args) {

        String name = args[0];
        int age = Integer.parseInt(args[1]) ;
        double moy = Double.parseDouble(args[2]) ;
        boolean isMale = Boolean.parseBoolean(args[3]) ;

    }
}
```



ik advance tenkteb b e :) kont njri w 3jezt nzid el e apr :)) sah ki tefham

ARRAYS (TABLEAUX)

ARRAYS

👉 An array is an object that stores a specific number of data (SAME TYPE).

Syntax :

Data type [ ] varName

;

Data type varName [ ]

;

REMEMBER THIS! , WE NEED IT AFTER :)

```java
public class Main {
    public static void main(String[] args) {

        String brands [] = {"BMW", "Mercedes" , "Buggati" , "Nissan"};
        String [] brands1  = {"BMW", "Mercedes" , "Buggati" , "Nissan"};

    }
}
```

ARRAYS (TABLEAUX)

ARRAYS

👉 In order to access a particular value in Array, we need to know **the index of that value.**

👉 we can **access to each value** in the Array and do some operation on it using **the foreach loop.**

```
String brands [ ] = {"BMW" , "Mercedes" , "Buggati" , "Nissan"};
```

index	0	1	2	3

ARRAYS (TABLEAUX)

FOREACH LOOP

```
for ( DataType name : arrayName ) {

    System.out.println(name);

}
```

👉 **DataType** : the type of **values** that is inside the array (Array type).

👉 **name** : each value in the array will be stored in **variable** called name (in this case).

ARRAYS (TABLEAUX)

FOREACH LOOP

👉 EXAMPLE :

```
String brands [ ] = {"BMW" , "Mercedes" , "Buggati" , "Nissan"};

for (String brandName : brands) {
        System.out.println(brandName);
}
```

👇

EXECUTION OF FOREACH 01: "BMW" , "Mercedes" , "Buggati" , "Nissan"

```
brandName = “BMW”;
System.out.println(brandName);
```

BMW

ARRAYS (TABLEAUX)

EXECUTION OF FOREACH 02: "BMW" , "Mercedes" , "Buggati" , "Nissan"

👆

brandName = “Mercedes”;
System.out.println(brandName);
Mercedes

👇

EXECUTION OF FOREACH 03: "BMW" , "Mercedes" , "Buggati" , "Nissan"

brandName = “Buggati”;
System.out.println(brandName);
Buggati

👇

EXECUTION OF FOREACH 03: "BMW" , "Mercedes" , "Buggati" , "Nissan"

...

ARRAYS (TABLEAUX)

FOREACH LOOP

```java
public class Main {
    public static void main(String[] args) {

        String brands [] = {"BMW", "Mercedes" , "Buggati" , "Nissan"};

       for (String brandName : brands) {
          System.out.println(brandName);
       }

    }
}
```

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SEE YOU SOON...