Variables and Data Types

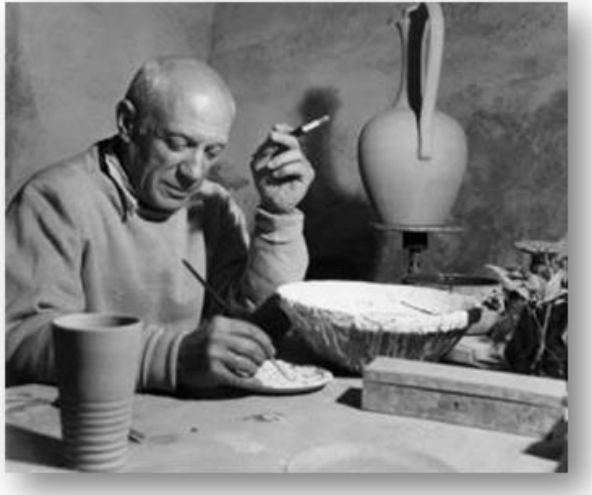
1. Hello World
2. The main method
3. Variables
4. Constants

Hello World

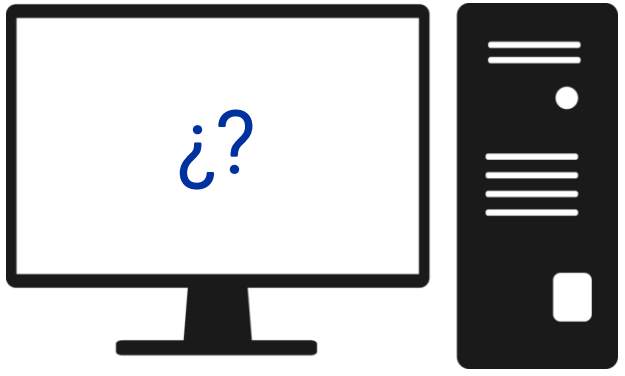
1. Hello World

“Los ordenadores son inútiles. Sólo pueden darnos respuestas“

Pablo Picasso.

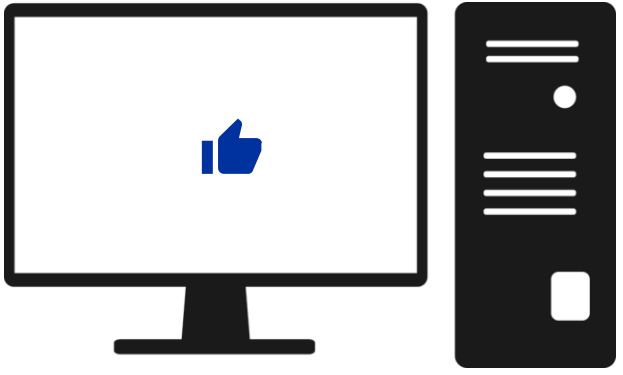


1. Hello World

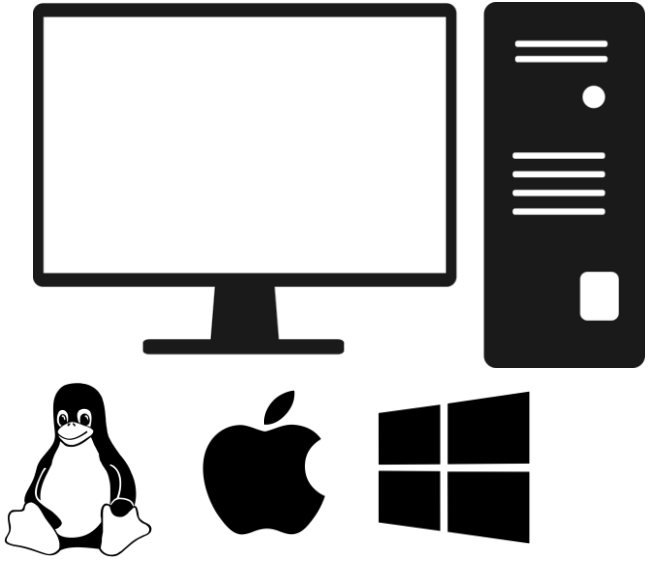


1. Hello World

1. Abre esta carpeta
2. Ve a los ficheros
   a. Encuentra el más reciente
   b. Colócalo en primer lugar
3. Repite para el resto de ficheros




Java™



HELLO WORLD APPLICATION

```
public class Main{
   public static void main(String[] args) {
      System.out.println("Hello world");
   }
}
```

1. Hello World

```
System.out.println();
```

1. Hello World

System command for presenting an output

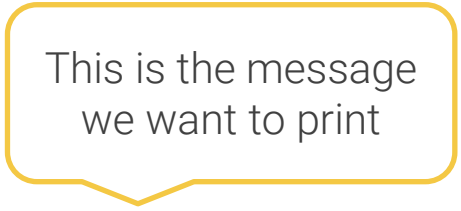
System.out.println();

1. Hello World

Print what is within those ()
on the screen as a new line

System.out.**println();**

1. Hello World



System.out.println(**“Hello World”**);

JAVA is case sensitive

~~system.out.println(“Hello World”);~~

Java needs end of every statement

```
System.out.println(“Hello World”);
```

The main method

HELLO WORLD APPLICATION

```
public class Main {
    public static void main(String[] args) {
        System.out.println("Hello world");
    }
}
```

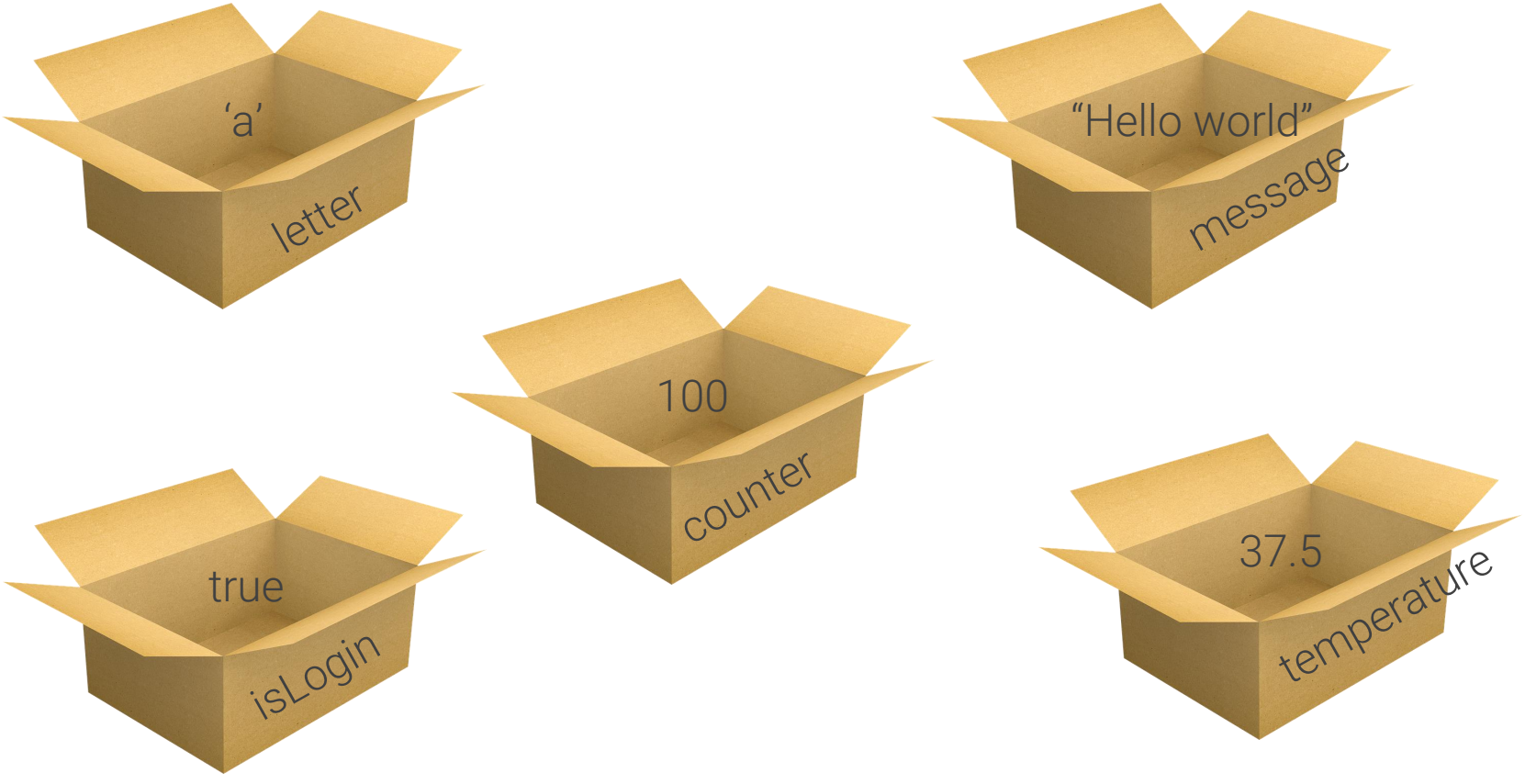
HELLO WORLD APPLICATION

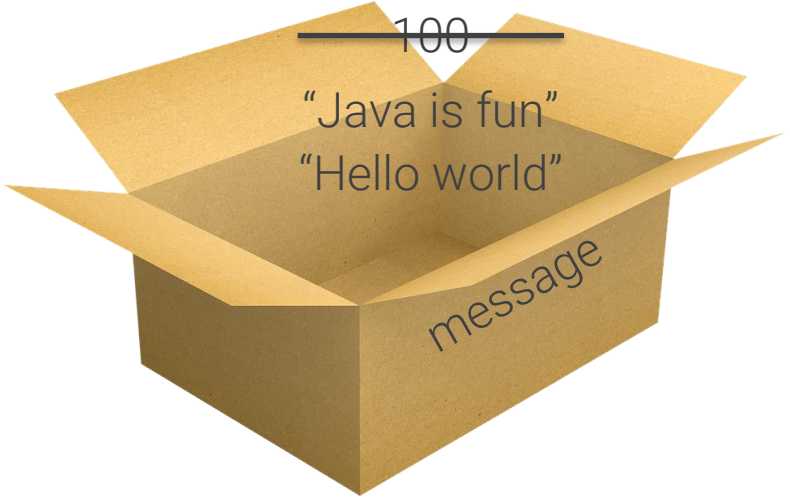
```
public class Main {
    public static void main(String[] args) {
        System.out.println("Hello world");
        …
    }
}
```

Variables


15
10
passengers

3. Variables


'a'
letter
"Hello world"
message
100
counter
true
isLogin
37.5
temperature


100
“Java is fun”
“Hello world”
message

Data Types	Descripción	Rango valores
long	Número entero	-2^{63}... 2^{63} -1
int		-2^{31}... 2^{31} -1
short		-32768 ... +32678
byte		-128 ... 127
double	Número decimal	15 dígitos
float		6 dígitos

Data Types	Descripción	Ejemplos
long	Número entero	-26345678, 12390456
int		-2500, 5980
short		-25, 100
byte		-1, 5
double	Número decimal	-12356.56 , 45678.789
float		-30.5 , 100.89

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long	Número entero	-26345678, 12390456
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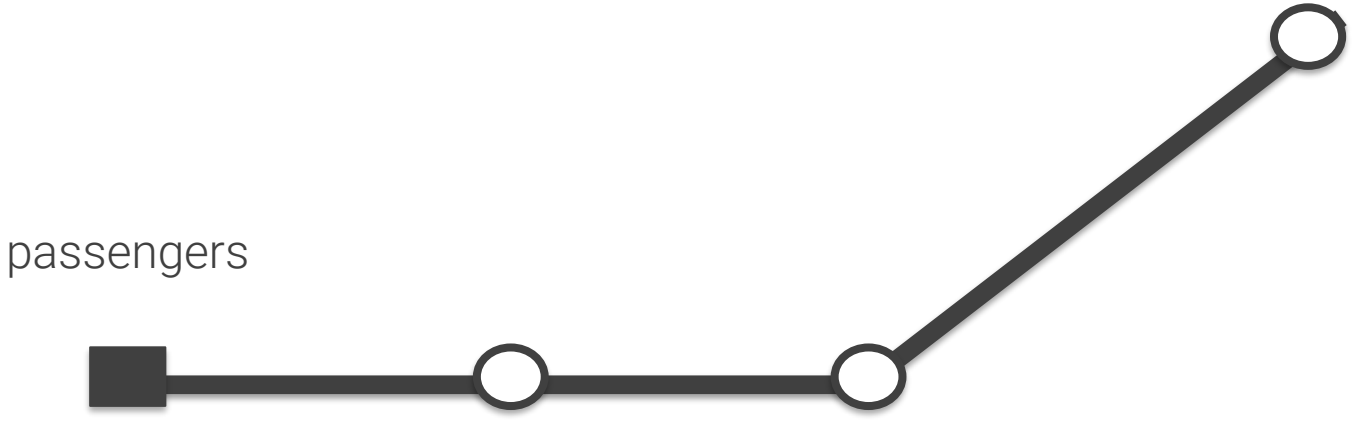
float		-30.5 , 100.89

3. Variables

Data Types	Descripción	Rango valores	Ejemplos
boolean	valor lógico	true, false	true, false
char	carácter unicode	unicode	‘a’, ‘z’, ‘#’, ‘4’
String	cadena de caracteres		“Hello world”, “Java is fun”


passengers

Data Types: int

```
int passengers;
```

Declare a variable

Data Types: int

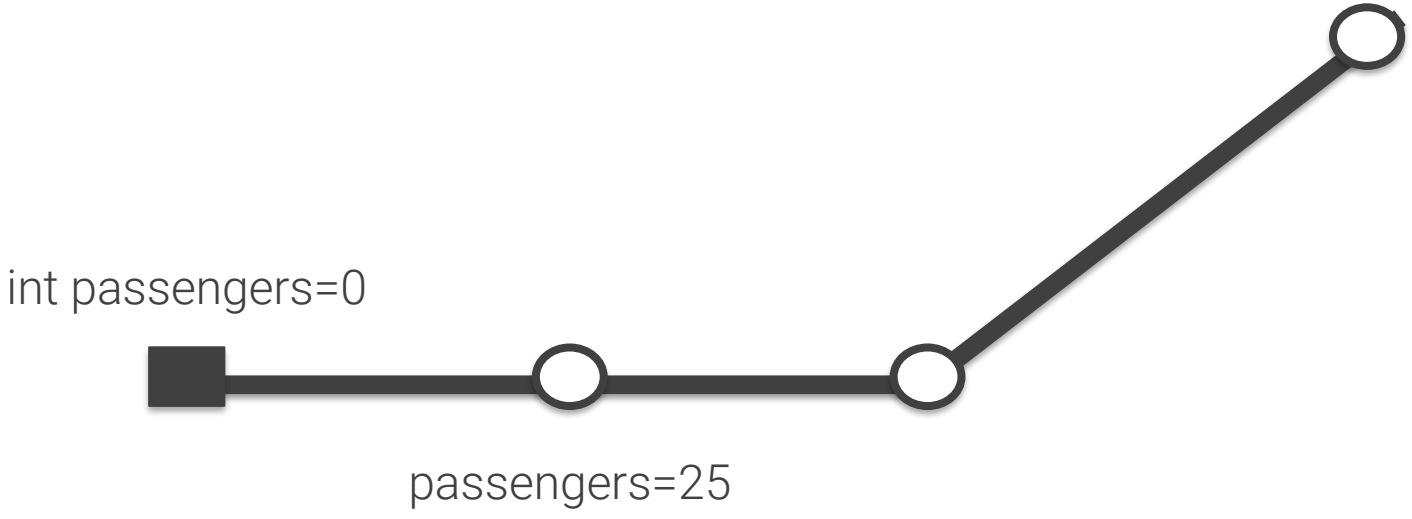
```
int passengers;
passengers = 0;
```

Initialize a variable

Data Types: int

```
int passengers = 0;
```

Declare and initialize a variable


int passengers=0
passengers=25

Updating Variables

```
int passengers = 0;
passengers = 25;
```

3. Variables

```
public class Main{
        public static void main(String[] args) {
          boolean isLogin = true;
          float ratio = 37.5f;
          double budget = 13450.99;
          char letter = 'a';
          String greeting = "Hello world";
        }
}
```

Multiple variables with different data types

3. Variables

```
public class Main{
        public static void main(String[] args) {
          boolean isLogin = true;
          float ratio = 37.5f;
          double budget = 13450.99;
          char letter = 'a';
          String greeting = "Hello world";
        }
}
```

Initialize a float variable: write f at the end

3. Variables

```
public class Main{
        public static void main(String[] args) {
          boolean isLogin = true;
          float ratio = 37.5f;
          double budget = 13450.99;
          char letter = 'a';
          String greeting = "Hello world";
        }
}
```

Initialize a char variable: it's enclosed in single quotes

3. Variables

```
public class Main{
        public static void main(String[] args) {
          boolean isLogin = true;
          float ratio = 37.5f;
          double budget = 13450.99;
          char letter = 'a';
          String greeting = "Hello world";
        }
}
```

Initialize a String variable: it's enclosed in double quotes

¿Cuáles de las siguientes sentencias son incorrectas?

a. char me = ‘l’;
b. boolean number = 17;
c. double price = 23.5;
d. long total = 100.1;
e. fact = true;

¿Cuáles de las siguientes sentencias son incorrectas?

a. char me = 'l';
b. boolean number = 17; //boolean solo admite true o false
c. double price = 23.5;
d. long total = 100.1; //long admite valores enteros, no decimales
e. fact = true; //no declarado tipo de variable

Print a variable

```
int passengers = 0;
System.out.println(passengers);
```

3. Variables

```
public class Main{
        public static void main(String[] args) {
              int counter = -10;
          boolean isLogin = true;
          double ratio = 37.5;
          char letter = 'a';
          String greeting = "Hello world";
          System.out.println(counter);
          System.out.println(isLogin);
          System.out.println(ratio);
          System.out.println(letter);
          System.out.println(greeting);
        }
}
```

Print output
-10
true
37.5
a
Hello world

Variable names

```
int passengers = 10;
float witdh = 25.5f;
double _temperature = 37.2;
int i = 0;
int 1passengers = 10;
```

Variable names should start with a lower case letter or _

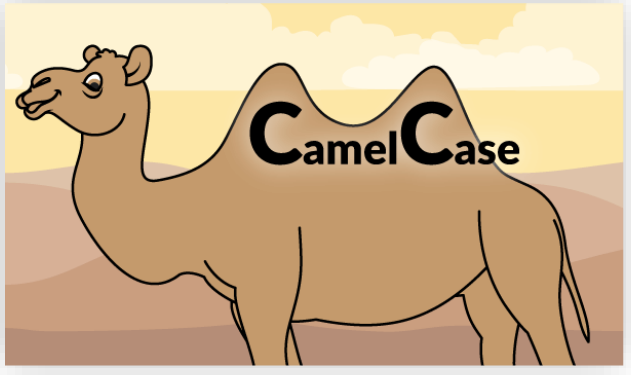
Variable names: palabras reservadas Java

abstract	continue	finally	int	public	throw
assert	default	float	interface	return	throws
boolean	do	for	long	short	transient
break	double	goto	native	static	true
byte	else	if	new	strictfp	try
case	enum	implements	null	super	void
catch	extends	import	package	switch	volatile
class	false	inner	private	synchronized	
const	final	instanceof	protected	this	while

Variable names

```
boolean isLogin = true;
char stopIdentification = 'A';
```

lower Camel Case
RULE



Variable names

```
boolean isLogin = true;
char stop Identification = 'A';
```

No white spaces

Variable names are case sensitive

```
double productPrice = 20.5;
productprice = 30.5;
```

Cannot find productprice

¿Cuáles de los siguientes nombres de variables son legales?

a. 2ndtName
b. _temperature
c. new
d. shop
e. break

¿Cuáles de los siguientes nombres de variables son legales?

a. 2ndtName //comienza con número
b. _temperature
c. new //palabra reservada lenguaje
d. shop
e. break //palabra reservada lenguaje

Constants

4. Constants

final double TAX = 0.21;

The final modifier indicates that the value cannot change

4. Constants

```
final double TAX = 0.21;
TAX = 0.25;
```

Cannot assign a new value

Constants names

```
final double TAX = 0.21
final int TOTAL_STOPS = 10;
```

Upper Case

“Los ordenadores son inútiles. Sólo pueden darnos respuestas“

Pablo Picasso