# Universidad De Las Fuerzas Armadas ESPE.
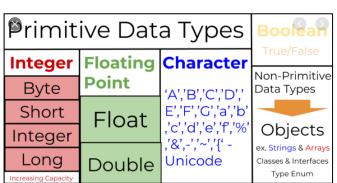
**Name:** Alisson Caiza

**NRC:** 3682

**Teacher name:** Edison Lascano

**Theme:** Primitive data limits

- **What is a primitive data?**

Original data types of a programming language, that is, those that the language provides us and with which we can build data types

➢ Char (personaje)
➢ Int (entero)
➢ Flotante (Real - Punto flotante)
➢ Booleano (Lógico: Verdadero, Falso)
➢ String (Cadena de caracteres)
➢ Puntero (Dirección de memoria - Int)



## Primitive Data Types

| Data Type | Default Value | Default size |
|-----------|---------------|--------------|
| boolean | false | 1 bit |
| char | '\u0000' | 2 byte |
| byte | 0 | 1 byte |
| short | 0 | 2 byte |
| int | 0 | 4 byte |
| long | 0L | 8 byte |
| float | 0.0f | 4 byte |
| double | 0.0d | 8 byte |

→ **Python primitive data.**

| Tipos de Datos | Memoria que ocupa | Rango de valores |
|---|---|---|
| boolean | 1 byte | 0 o 1 (True o False) |
| byte / unsigned char | 1 byte | 0 – 255 |
| char | 1 byte | -128 – 127 |
| int | 2 bytes | -32.768 – 32.767 |
| word / unsigned int | 2 bytes | 0 – 65.535 |
| long | 2 bytes | -2.147.483.648 – 2.147.483.647 |
| unsigned long | 4 bytes | 0 – 4.294.967.295 |
| float / double | 4 bytes | -3,4028235E+38 - 3,4028235E+38 |
| string | 1 byte + x | Array de caracteres |
| array | 1 byte + x | Colección de variables |

→ **Java primitive data.**

| Nombre | Tipo | Tamaño | Valor por defecto | Forma de inicializar | Rango |
|---|---|---|---|---|---|
| Boolean | Lógico | 1 bit | False | Boolean a=true | True-false |
| Char | Carácter | 16 bits | Null | Char a='Z' | Unicode |
| Byte | Numero entero | 8 bits | 0 | Byte a =0 | -128 a 127 |
| Short | Numero entero | 16 bits | 0 | Short a =12 | -32.768 a 32.767 |
| Int | Numero entero | 32 bit | 0 | Int a= 1250 | -2.147.483.648 a 2.147.483.649 |
| Long | Numero entero | 64 bits | 0 | Long a= 125000 | $-9*10^{18}$ a $9*10^{18}$ |
| Float | Numero real | 32 bits | 0 | Float a =3.1 | $-3,4*10^{38}$ a $3,4*10^{38}$ |
| Double | Numero real | 64 bits | 0 | Double a = 125.2333 | $-1,79*10^{308}$ a $1,79*10^{308}$ |

- **Character (char)**

In Java the characters are not restricted to ASCII but are Unicode.
A character is always surrounded by single quotes like 'A', '9', 'ñ', etc.
The char data type is used to store these characters.

- **Boolean**

A Boolean variable can only hold one of two possible values: true (true) and false (false).

- **Integers (Int)**

An integer variable consists of any combination of the preceding digits by the plus sign (optional), for positives, or the minus sign, for negatives.

→ **Example:** 10, -12, 432, -128

As examples of integer variable declaration, we have:

In t. Number = 8451;

In t. x, y;

- **Casting Constructor.**

```
Casting is the term used to describe the act of changing datatypes. For example;
String number = "12345";
int real_int;
real_int = (int)number; << this is casting a String to an int
The default constructor is a method that is either defined by the developer as a constructor with no arguments or inserted by the compile for every java class
(as a constructor with no args) that does not have a constructor defined.
public class apu ()
{
public apu (){ << default constructor
//implicit call to super();
//constructor stuff
}
}
If a constructor method is defined with arguments, the default
constructor is not added by the compiler and will need to be coded by the developer if it is to be used.
```

**Bibliography:**

- https://coderanch.com/t/386935/java/Casting-constructor
- http://b-one-informatica.blogspot.com/2016/10/tipos-de-datos-primitivos-java.html