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Module 2: Literals In JAVA

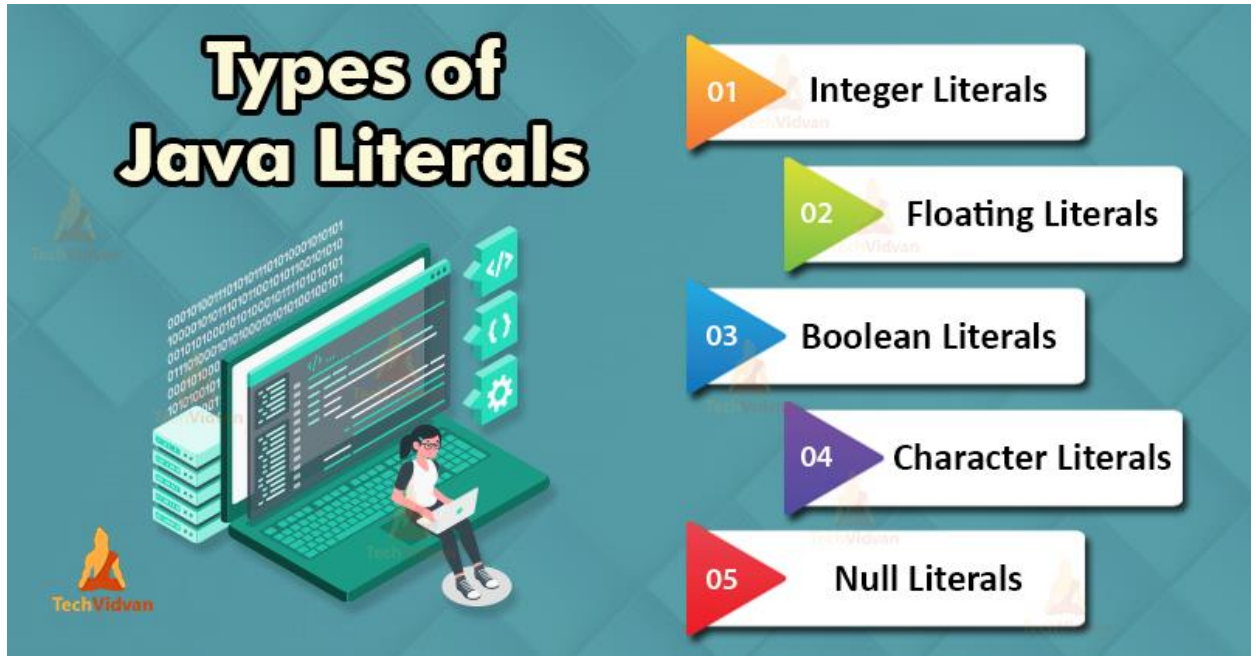
Literals (or Constants)

- The quantity which does not change its value during the program execution is called Literal or constant.

Or

- They are the data items that are fixed data values.
- int x = 100; Here 100 is a literal/constant.
- *Java allows several kinds of literals:*

- *Integer Literals*
- *Floating Literals*
- *Boolean Literals*
- *Character-Literal*
- *String-Literals*
- *Null Literal*



Integers Literals

- An integer literal is a numeric value(associated with numbers) without any fractional or exponential part.
- There are 4 types of integer literals in Java:
  1. **binary (base 2)** - int binNumber = 0b10010; // 0b represents binary
  2. **decimal (base 10)** - int decNumber = 34;
  3. **octal (base 8)** - int octalNumber = 027;
  4. **hexadecimal (base 16)** - int hexNumber = 0x2F; // 0x represents hexadecimal
- In Java, binary starts with **0b**, octal starts with **0**, and hexadecimal starts with **0x**.
- Note: Integer literals are used to initialize variables of integer types like byte, short, int, and long.

Examples Of Integer Literals

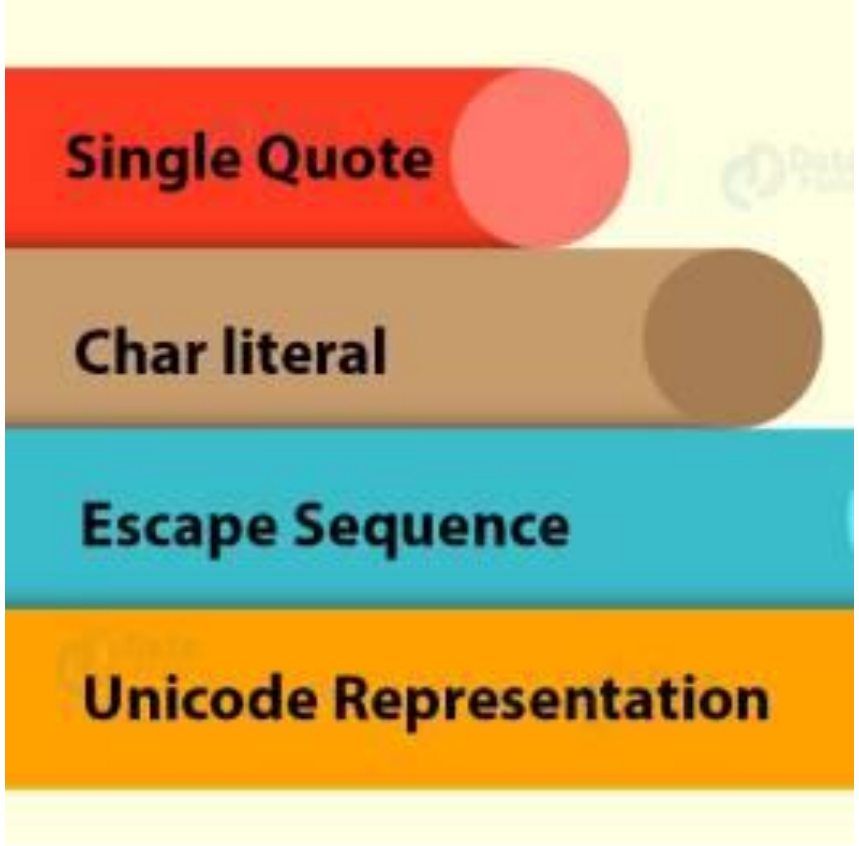
Literal Type	Assignment Statement	Explanation
Decimal	int num = 10;	Decimal 10 is assigned to the variable num
Octal	int num = 010;	"010" is octal number , so first octal number is converted into integer and then it is assigned to variable "num"
Hexadecimal	int num = 0x10;	"0x10" is hexadecimal number , It is first converted into Decimal then assigned to variable "num"
Binary	int num = 0b1010;	"0b1010" is binary number , assigned to the variable "num" after converting it into decimal number
Long	long num = 599L;	"599L" is long number , assigned to the variable "num"

Floating Point Literals

- A floating-point literal is a numeric literal that has either a fractional form or an exponential form.
- The floating-point literals are used to initialize float and double type variables.
- The default data type for floating point literals is **double.**
- **Example: -**29.75 ,1.76, 6.89 are floating point literals.

Character Literals

- Character literals are Unicode character enclosed inside single quotes.
- For example, **char letter = ‘a’**; Here a is character literal.
- Some characters cannot be typed directly and must be written as “escape-sequences”.
- Example:- **\t -> Tab** or **\n-> Newline**



Some More Escape Sequences

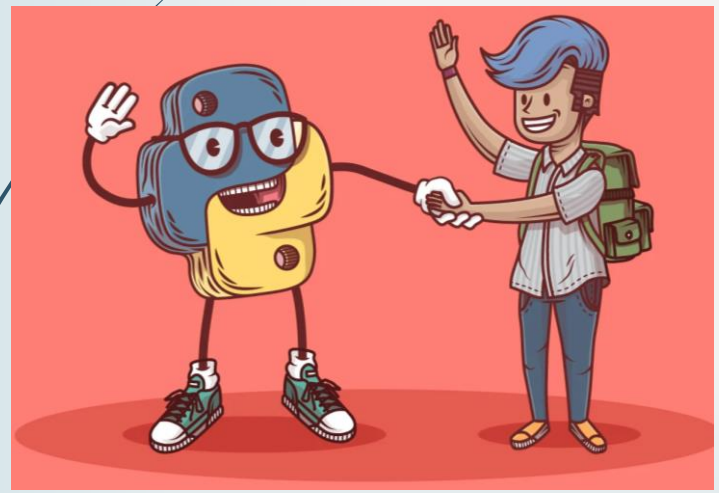
`\n`	newline	Advances the cursor to the next line for subsequent printing
`\t`	tab	Causes the cursor to skip over to the next tab stop
`\b`	backspace	Causes the cursor to back up, or move left, one position
`\r`	carriage return	Causes the cursor to go to the beginning of the current line, not the next line
`\\`	backslash	Causes a backslash to be printed
`\'`	single quote	Causes a single quotation mark to be printed
`\"`	double quote	Causes a double quotation mark to be printed

More Literals

- **String Literals-**
  - A string literal is a sequence of characters enclosed inside double-quotes.
  - For example, **String str = "JAVA";** Here JAVA is a string literal.

- **Boolean Literals-**
  - In Java, boolean literals are used to initialize boolean data types.
  - They can store two values: true and false.
  - For example, **boolean a= true; boolean b= false;** Here, false and true are two boolean literals.

Happy Learning!!



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