

# Tokens and types of tokens

- **Tokens:** The smallest unit of programming language which is used to compose instructions is known as tokens.
- **Types of Tokens:**
  - Keywords
  - Identifiers
  - Literals/data/values

# Keywords

- A predefined words which the java compiler can understand is known as keyword.
- Every keyword in java is associated with a specific task.
- A programmer can't change the meaning of the keyword(can't modify the associated task)

**Example:** class, public,static,void etc.

- There are 50+ keywords in java.

**Rule:** Keywords are always written in lower case.

# Identifiers

- The name given to the component of java by the programmers is known as identifier.
- List of components
  1. Class
  2. Method
  3. Variable

**NOTE:** A programmer should follow the rules and convention for an identifier.

## **Rules of an identifier**

- Identifiers should never start with a number.
- Identifiers should not have special character except \$ and \_.
- Character space is not allowed in an identifier.
- We can't use keywords as identifiers.

## **Conventions:**

- The coding or industrial standards to be followed by the programmer is known as convention.

# Cont....

- **Note:** Compiler does not validate the convention, therefore if the convention is not followed then we won't get compile time error.
- It is highly recommended to follow the convention.
- **Convention for a class**
- **Single word:** The first word should be in upper case remaining in lower case.

**Example:** Addition, Calculator, Sum etc.

- **MultiWord:** The first character of every word should be in upper case remaining in Lower case.

**Example:** SquareRoot, PowerOfDigit, etc.

# Literals

- The values or data used in java program is known as Literals.
- The data is generally categorized into two types:
  1. Primitive Data Values.
  2. Non Primitive Values.
- **Primitive Values:**
  - ✓ Single value data is called Primitive values.
- **Non Primitive Values:**
  - ✓ The multi valued data is known as non-primitive value(group of data).

# Primitive Values

- Single value data is called primitive values.

Example: Number, Character ,Boolean.

## a. Number Literals:

### 1)Integer number literals.

Example:1,4,67,24,35 etc.

### 2) Floating Number literals

Example: 2.3,1.0,35.67 etc.

## b. Character Literals:

- Anything which is enclosed with a single quote(' ') is considered as character literal.

Example: 'a', 'c', '@' etc.

Cont..

- **Boolean Literals:**

Boolean literals are used to write logical values. We have two Boolean literals.

1. true
2. false

- **Non-Primitive Values:**

The multivalued data is known as non-primitive value(group of data).

**Example:** String.



Cont..

- **String Literals:**
- Anything enclosed within a double quote(“ ”) is known as String literals.
- The length of the string literals can be anything
- They are case sensitive.
- **Example:** “hello”, “bye” ,”flower”