

# Java Identifiers

Difficulty Level : Basic Last Updated : 17 Feb, 2021

In programming languages, identifiers are used for identification purposes. In Java, an identifier can be a class name, method name, variable name, or label. For example :

```
public class Test
{
    public static void main(String[] args)
    {
        int a = 20;
    }
}
```

In the above java code, we have 5 identifiers namely :

- **Test** : class name.
- **main** : method name.
- **String** : predefined class name.
- **args** : variable name.
- **a** : variable name.

## Rules for defining Java Identifiers

There are certain rules for defining a valid java identifier. These rules must be followed, otherwise we get compile-time error. These rules are also valid for other languages like C,C++.

- The only allowed characters for identifiers are all alphanumeric characters([**A-Z**],[**a-z**],[**0-9**]), '\$'(dollar sign) and '\_' (underscore).For example "geek@" is not a valid java identifier as it contain '@' special character.
- Identifiers should **not** start with digits([**0-9**]). For example "123geeks" is a not a valid java identifier.
- Java identifiers are **case-sensitive**.
- There is no limit on the length of the identifier but it is advisable to use an optimum length of 4 – 15 letters only.
- **Reserved Words** can't be used as an identifier. For example "int while = 20;" is an invalid statement as while is a reserved word. There are **53** reserved words in Java.

## Examples of valid identifiers :

```
MyVariable  
MYVARIABLE  
myvariable  
x  
i  
x1  
i1  
_myvariable  
$myvariable  
sum_of_array  
geeks123
```

### Examples of invalid identifiers :

```
My Variable // contains a space  
123geeks // Begins with a digit  
a+c // plus sign is not an alphanumeric character  
variable-2 // hyphen is not an alphanumeric character  
sum_&_difference // ampersand is not an alphanumeric character
```

### Reserved Words

Any programming language reserves some words to represent functionalities defined by that language. These words are called reserved words. They can be briefly categorised into two parts : **keywords**(50) and **literals**(3). Keywords define functionalities and literals define a value. Identifiers are used by symbol tables in various analyzing phases(like lexical, syntax, semantic) of a compiler architecture.

**Note:** The keywords `const` and `goto` are reserved, even though they are not currently used. In place of `const`, the final keyword is used. Some keywords like `strictfp` are included in later versions of Java.

This article is contributed by **Gaurav Miglani**. If you like GeeksforGeeks and would like to contribute, you can also write an article using [contribute.geeksforgeeks.org](https://www.geeksforgeeks.org/contribute) or mail your article to [contribute@geeksforgeeks.org](mailto:contribute@geeksforgeeks.org). See your article appearing on the GeeksforGeeks main page and help other Geeks.

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

