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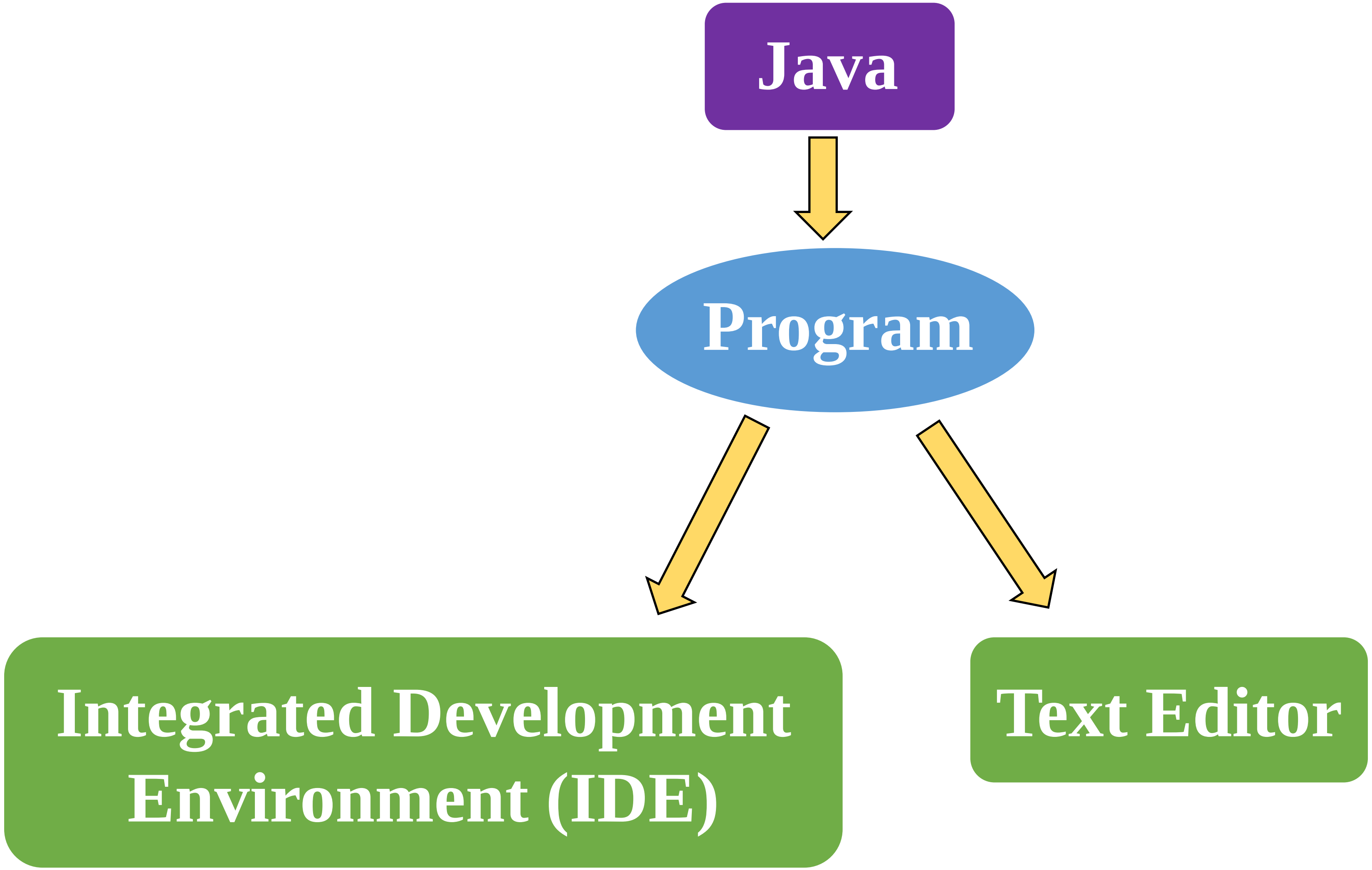
JAVA
PROGRAMMING
FORMAT

Java Programming Format



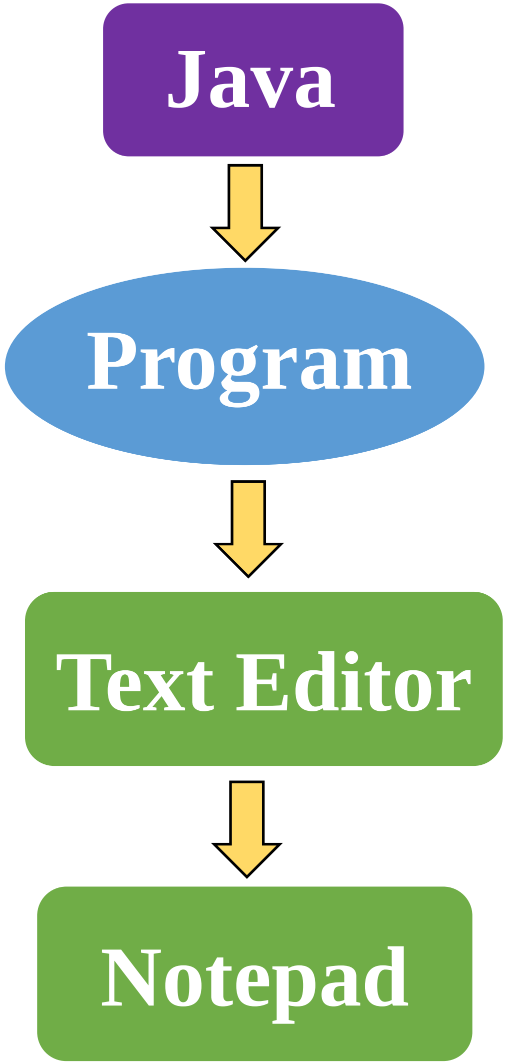
Java

Program

Integrated Development Environment (IDE)

Text Editor

Java Programming Format



Java Programming Format

Program

```
class Demo
{
        public static void main(String [] args)
        {
                System.out.println(“Hello World”);
        }
}
```

Java Programming Format

Program Structure

```
class Demo
{

}
```

It is an object oriented construct.

Java Programming Format

Program Structure

```
class Demo
{

}
```

“class” is a keyword and declares a new class definition.

Java Programming Format

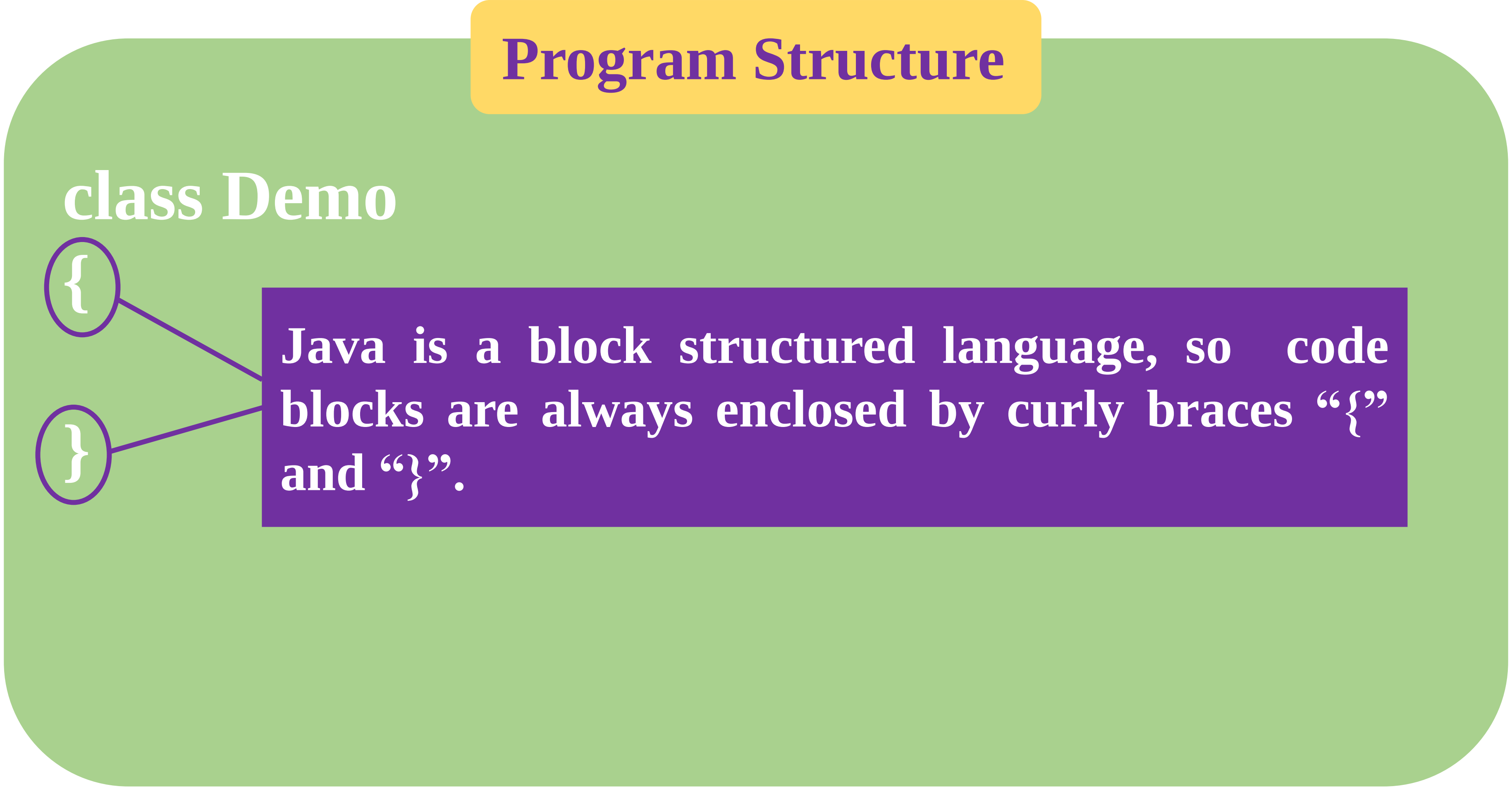
Program Structure

```
class Demo
{

}
```

“Demo” is a Java Identifier that specifies the name of the class to be defined.

Java Programming Format



Program Structure

class Demo

{

}

Java is a block structured language, so code blocks are always enclosed by curly braces “{” and “}”.

Java Programming Format

Program Structure

```
class Demo
{
        public static void main(String [] args)
        {

        }
}
```

“public” is an access modifier, whose access level is everywhere.

Java Programming Format

Program Structure

```
class Demo
{
        public static void main(String [] args)
        {


        }
}
```

“static” keyword declares the main() method as a global one and can be accessed without creating an object of the class.

Java Programming Format

Program Structure

```
class Demo
{
        public static void main(String [] args)
        {

        }
}
```

“void” keyword states that, the main() method does not return any value.

Java Programming Format

Program Structure

```
class Demo
{
        public static void main(String [] args)
        {


        }
}
```

“main()” method is the entry point of Java program, which is configured by JVM.

Java Programming Format

Program Structure

```
class Demo
{
        public static void main(String [] args)
        {


        }
}
```

The main() method accepts a single argument, which is an array of elements named as “args” of type “String”.

Java Programming Format

Program Structure

```
class Demo
{
        public static void main(String [] args)
        {
                System.out.println(“Hello World”);
        }
}
```

This statement is used to print an argument, which is passed to it.

Java Programming Format

Program Structure

```
class Demo
{
        public static void main(String [] args)
        {
                System.out.println(“Hello World”);
        }
}
```

“System” is a predefined class in “java.lang” package.

Java Programming Format

Program Structure

```
class Demo
{
        public static void main(String [] args)
        {
                System.out.println(“Hello World”);
        }
}
```

“out” is an instance of type PrintStream, which is a static member field of the System class.

Java Programming Format

Program Structure

```
class Demo
{
        public static void main(String [] args)
        {
                System.out.println(“Hello World”);
        }
}
```

“println()” is a method of PrintStream class, which prints the argument passed to the standard console and a newline.

Java Programming Format

Program Structure

```
class Demo
{
        public static void main(String [] args)
        {
                System.out.println(“Hello World”);
        }
}
```

Semicolon is used to end the statement.

Java Programming Format

Save the Program

Save the program with same name as the class name -

<ClassName>.java

Demo.java

Java Programming Format

Set Path

Method - 1

Java Programming Format

Set Path

Method - 1

1) Go to the following location and copy it **C:\Program Files\Java\jdk1.8.0_161\bin**

2) Press ⊞ + R → Run, type **cmd** and press OK.

Java Programming Format

Set Path

Method - 1

3) In cmd, type the following command, along with copied location in Step 1

   set path=“C:\Program Files\Java\jdk1.8.0_161\bin”

   and type enter.

Java Programming Format

Set Path

Method - 1

4) Copy the location where your Java program is saved and type the following command followed by your copied location
   cd C:\Users\SUMEET\Desktop\Java Programs and press enter.

Java Programming Format

Set Path

Method - 1

5) Compile the program - **javac <FileName>.java**
   javac Demo.java

6) Execute the program - **java <FileName>**
   java Demo

Java Programming Format

Set Path

Method - 2

Java Programming Format

Set Path

Method - 2

1) **Go to the following location and copy it C:\Program Files\Java\jdk1.8.0_161\bin**

Java Programming Format

Set Path

Method – 2

2) Right click on → This PC→ Go to properties → Advanced System Settings → Environment Variables → System Variables → Select Path and click on Edit → click on New → paste the copied location of Step 1 and click OK.

Java Programming Format

Set Path

Method - 2

3) Press ⊞ + R → Run, type **cmd** and press OK.

Java Programming Format

Set Path

Method - 2

4) Copy the location where your Java program is saved and type the following command followed by your copied location
   cd C:\Users\SUMEET\Desktop\Java Programs and press enter.

Java Programming Format

Set Path

Method - 2

5) Compile the program - **javac <FileName>.java**
   javac Demo.java

6) Execute the program - **java <FileName>**
   java Demo

Java Programming Format

Output

```
Hello World
```

Java Environment

Java Development Kit (JDK)

java	It serves as Java interpreter.
javac	It serves as Java compiler.
javadoc	It creates HTML documentation for java source code files.

Java Environment

Java Development Kit (JDK)

javap

It serves as Java disassembler, which is used to convert byte code files into a java program description.

jdb

It serves as Java debugger.

jar

A jar (Java ARchive) serves as an archive used to package, related to class library into a single executable jar file.

Java Tokens

Java tokens are smallest elements of a program which are identified by the compiler.

In a Java program, all characters are grouped into symbols called tokens.

Java Tokens

The following are the Java tokens -

Comments

Identifiers

Separators

White Spaces

Literals

Operators

Keywords

Java Tokens

Comments

There are two types of comments in Java -

Single Line Comment

Multi Line Comment

Java Tokens

Comments

There are two types of comments in Java -

Single Line Comment

```
class Demo
{
            //Statement
}
```

Java Tokens

Comments

There are two types of comments in Java -

Multi Line Comment

```
class Demo
{
            /*
            Statements
            */
}
```

Java Tokens

Identifiers

In programming languages, identifiers are used for identification purpose.

In Java, an identifier can be names of classes, methods, variables, packages and interface.

Java Tokens

Identifiers

```
class Demo
{
        public static void main(String [] args)
        {
                int x;
        }
}
```

1) Class name

Java Tokens

Identifiers

```
class Demo
{
        public static void main(String [] args)
        {
                int x;
        }
}
```

2) Method name

Java Tokens

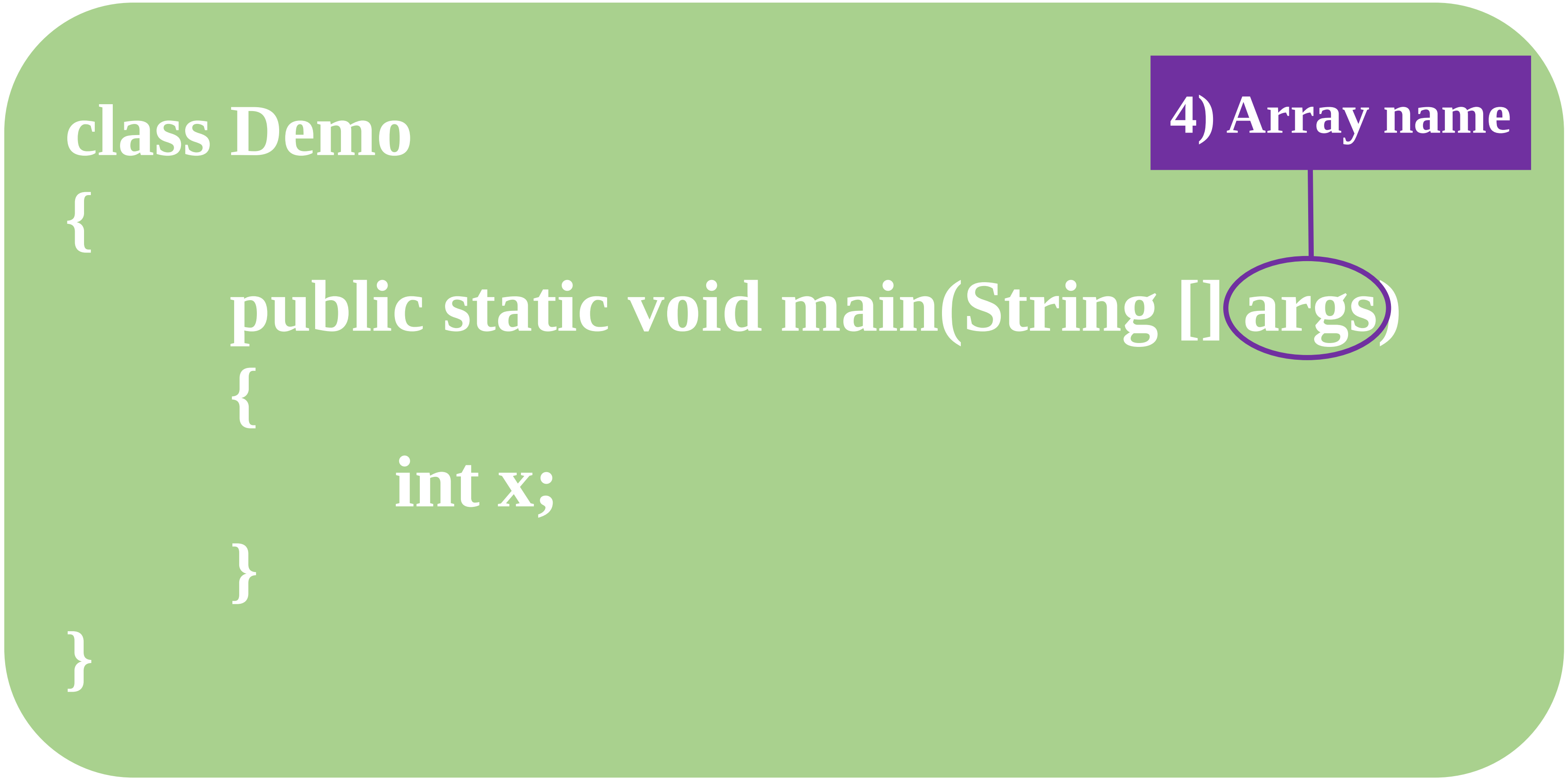
Identifiers

3) Predefined Java class name

```
class Demo
{
        public static void main(String[] args)
        {
                int x;
        }
}
```

Java Tokens

Identifiers



```
class Demo
{
        public static void main(String [] args)
        {
                int x;
        }
}
```

4) Array name

Java Tokens

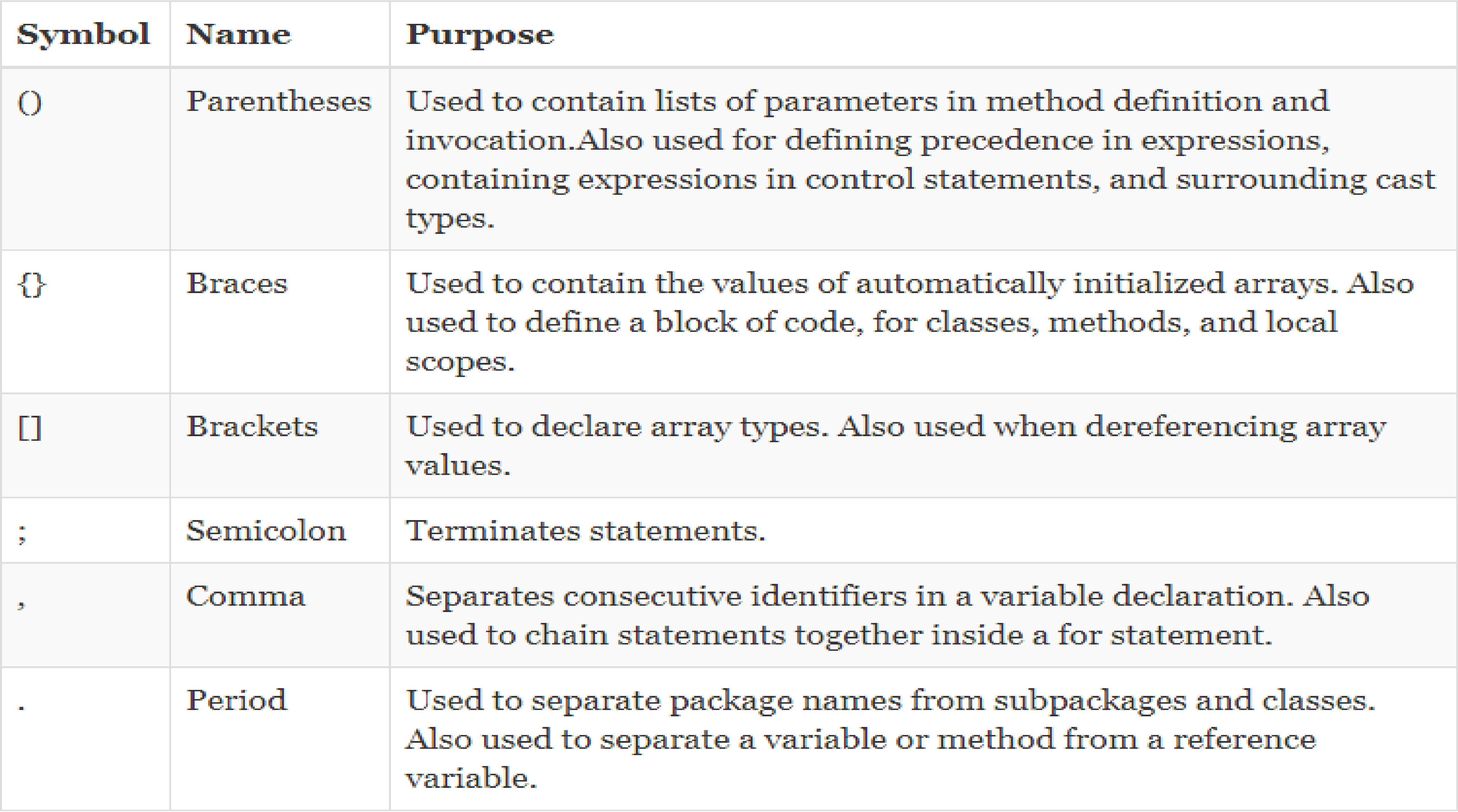
Identifiers

```
class Demo
{
        public static void main(String [] args)
        {
                int x;
        }
}
```

5) Variable name

Java Tokens

Separators



Symbol	Name	Purpose
()	Parentheses	Used to contain lists of parameters in method definition and invocation.Also used for defining precedence in expressions, containing expressions in control statements, and surrounding cast types.
{}	Braces	Used to contain the values of automatically initialized arrays. Also used to define a block of code, for classes, methods, and local scopes.
[]	Brackets	Used to declare array types. Also used when dereferencing array values.
;	Semicolon	Terminates statements.
,	Comma	Separates consecutive identifiers in a variable declaration. Also used to chain statements together inside a for statement.
.	Period	Used to separate package names from subpackages and classes. Also used to separate a variable or method from a reference variable.

Java Tokens

White Spaces

The java.lang.Character.isWhitespace() is an inbuilt method in a java that determines if the specified character (Unicode code point) is white space according to Java.

Unicode is an Information Technology (IT) standard for the consistent encoding, representation, and handling of text expressed in most of the world's writing systems. It provides a unique number for every character, no matter what platform, device, application or language.

Java Tokens

Literals

Any constant value, which can be assigned to a variable is called as Literal.

int	x	=	10;
Data type	Variable		Constant Value
Keyword	Identifier		Literal

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