Data types

- Byte:
  The byte data type can store whole numbers from -128 to 127.

- short
  Stores whole numbers from -32,768 to 32,767

- int,
  The int data type can store whole numbers from -2147483648 to 2147483647.

- Long
  The long data type can store whole numbers from -9223372036854775808 to 9223372036854775807.

- Float
  The float data type can store fractional numbers from 3.4e−038 to 3.4e+038.

- Double
  The double data type can store fractional numbers from 1.7e−308 to 1.7e+308.

- Char
  The char data type is used to store a single character. The character must be surrounded by single quotes, like 'A' or 'c':

- Boolean
  A boolean data type is declared with the boolean keyword and can only take the values true or false

Flow control

- If
  Use the if statement to specify a block of Java code to be executed if a condition is true.

- Else
  Use the else statement to specify a block of code to be executed if the condition is false.

- Switch
  Use the switch statement to select one of many code blocks to be executed.

- Case
  Case statement is like if statement. You can have any number of case statements within a switch. Each case is followed by the value to be compared to and a colon.

- default,
  The default keyword specifies some code to run if there is no case match:

- for,

When you know exactly how many times you want to loop through a block of code, use the for loop instead of a while loop

- do/ while
  The do/while loop is a variant of the while loop. This loop will execute the code block once, before checking if the condition is true, then it will repeat the loop as long as the condition is true.

- break
  When Java reaches a break keyword, it breaks out of the switch block or while loop.

- Continue
  The continue statement breaks one iteration (in the loop), if a specified condition occurs, and continues with the next iteration in the loop.

- return
  Returning a Value from a Method

Modifiers

- public
  The public keyword is an access modifier, meaning that it is used to set the access level for classes, attributes, methods and constructors.

- Private
  The code is only accessible within the declared class

- protected,
  The code is accessible in the same package and subclasses. You will learn more about subclasses and superclasses in the Inheritance chapter

- static,
  Attributes and methods belongs to the class, rather than an object

- final
  Attributes and methods cannot be overridden/modified

- abstract
  Can only be used in an abstract class, and can only be used on methods. The method does not have a body.

- synchronized
  Methods can only be accessed by one thread at a time

- native
  A native method is a Java method (either an instance method or a class method) whose implementation is also written in another programming language such as C/C++.

We can use them to:

1. implement an interface with system calls or libraries written in other programming languages
2. access system or hardware resources that are only reachable from the other language
3. integrate already existing legacy code written in C/C++ into a Java application
4. call a compiled dynamically loaded library with arbitrary code from Java

- strictfp
  It is used in java for restricting floating-point calculations and ensuring the same result on every platform while performing operations in the floating-point variable.

- transient
  Attributes and methods are skipped when serializing the object containing them

- volatile
  The value of an attribute is not cached thread-locally, and is always read from the "main memory"

exception handling

- try
  The try statement allows you to define a block of code to be tested for errors while it is being executed.

- Catch
  The catch statement allows you to define a block of code to be executed, if an error occurs in the try block.

- Finally
  The finally statement lets you execute code, after try...catch, regardless of the result.

- Throw
  The throw statement allows you to create a custom error.

- throws,
  The throws keyword in Java is used to declare exceptions that can occur during the execution of a program.

- Assert
  The Java assert keyword allows developers to quickly verify certain assumptions or state of a program.

Class related

- Class
  A class is a group of objects which have common properties. It is a template or blueprint from which objects are created. It is a logical entity. It can't be physical.

- package,
  A package in Java is used to group related classes. Think of it as a folder in a file directory. We use packages to avoid name conflicts, and to write a better maintainable code.

- Import
  When you want to use the libraries, you need to use import statement.

- extends,
  A class (subclass) inherits the attributes and methods from superclass.

- implements
  To access the interface methods, the interface must be "implemented" (kinda like inherited) by another class with the implements keyword (instead of extends)

- interface
  An interface is a completely "abstract class" that is used to group related methods with empty bodies

Object related keywords,

- new,
  The new keyword creates new objects.

- instanceof,
  The instanceof keyword checks whether an object is an instance of a specific class or an interface.

  The instanceof keyword compares the instance with type. The return value is either true or false

- super,
  The super keyword refers to superclass (parent) objects. It is used to call superclass methods, and to access the superclass constructor.

- This
  The this keyword refers to the current object in a method or constructor.