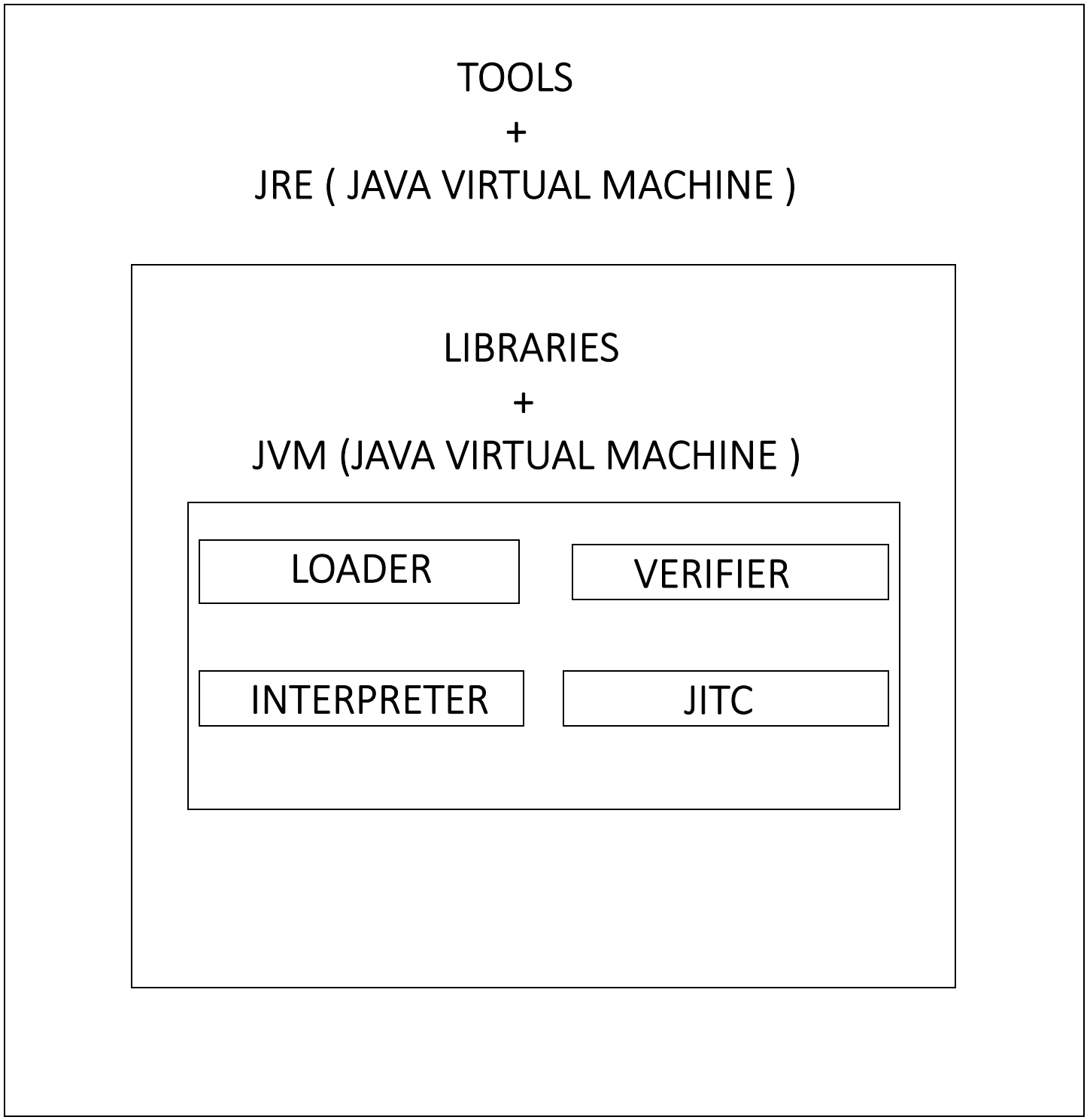
JDK (JAVA DEVELOPMENT KIT)
TOOLS
+
JRE (JAVA VIRTUAL MACHINE)
LIBRARIES
+
JVM (JAVA VIRTUAL MACHINE)
LOADER
VERIFIER
INTERPRETER
JITC

JDK (JAVA DEVELOPMENT KIT)

- The JDK is a software Development Kit which is used to develop java applications.
- It Includes tools and JRE (Java Runtime Environment) needed for Java development.

JRE (JAVA RUNTIME ENVIRONMENT)

- The JRE provides the runtime environment required to run java applications.
- It includes Libraries and JVM (Java Virtual Machine).
- If you only need to run java programs (not develop them) , you just need the JRE.

JVM (JAVA VIRTUAL MACHINE)

- JVM is responsible for executing java byte code.
- It converts byte code (.class file) into machine code at runtime.
- It includes Loader , Verifier, Interpreter and JIITC.

PROCESS FOR EXECUTION

1. CODING
    - Writing a simple code and this code is known as source code which is high-level language.
    - We have to save this source code by .java.

2.COMPILATION

- In compilation the source code will undergo a compilation process by using compiler.
- During compilation, if we get any compile time error the code will not go into further process so we have to modify the source code.
- The code will be modified until we get compile time success.
- Then the compiler compiles the code and convert into the byte code, which is middle level language.

3.INTERPRETOR

- This interpretor helps to converts that bytecode line by line into binary code which is low level language.
- Binary code will given to processor.

TOKENS

Basic Things required to write any java code.

There are four types

1. Keywords
2. Identifier
3. Literals
4. operators

KEYWORDS

- In java, a keyword is reserved word that has already defined by developers in the language.
- EX: int, short, byte, if, else and so on.
- In java there are more than 50 keywords.

IDENTIFIER

- In java identifiers are names given to java components.
- An identifier in java is the name assigned to variables, methods, classes or interfaces.

RULES FOR NAMING IDENTIFIER

- A name should not start with the number.
- No symbol will be allowed in the name except $ and _(underscore)

- Keywords will not use as identifier.
- We should follow some necessary things while naming the identifier and it is not mandatory.
    i)For classes or interfaces we should follow pascal case.
    ii)For variable or methods we should follow camel case.

LITERALS

- In java Literals is nothing but raw data.
- A literal in java is a constant value assigned directly to a variable.

There are four types

1.Numbers

2.Character

3.Strings

4.Boolean

NUMBERS

- Numbers are nothing but numeric values in between o to 9.
- It may be integers or decimals.

CHARACTERS

- Keys which are present in keyboard is known as characters.
- Maximum and minimum size for character is one.
- We should write character in between single quotes.

STRINGS

- Series of characters or combinations of cahracters is known as Strings.
- Strings will written inside double quotes.
- Minimum size for string can be zero and maximum will be undefined.

BOOLEAN

- Boolean literals can only have two values.
    i) True
    ii) False

DATA TYPES

- In java, data types specify the kind of data a variable can hold.
- It specifies type and size.

THERE ARE TWO TYPES IN DATA TYPES

i) PRIMITIVE DATA TYPE
ii) NON – PRIMITIVE DATA TYPE

PRIMITIVE DATA TYPE

- Memory for these data types are fixed.
- There are 8 primitive data types.

INTEGER TYPE

i) Byte - 8 bits
ii) Short – 2 bytes
iii) Int - 4 bytes
iv) Long – 8 bytes

DECIMAL TYPE

i) Float – 4 bytes
ii) Double - 8 bytes

Char- 2 bytes

Boolean – 1 bit