DAY-5

INTERFACES

BLOCK

KEYWORD
IDENTIFERS
LITERALS/VALUES
SEPERATORS

TOKENS

METHODS

CLASS

PACKAGE

JARS

LIBRARY
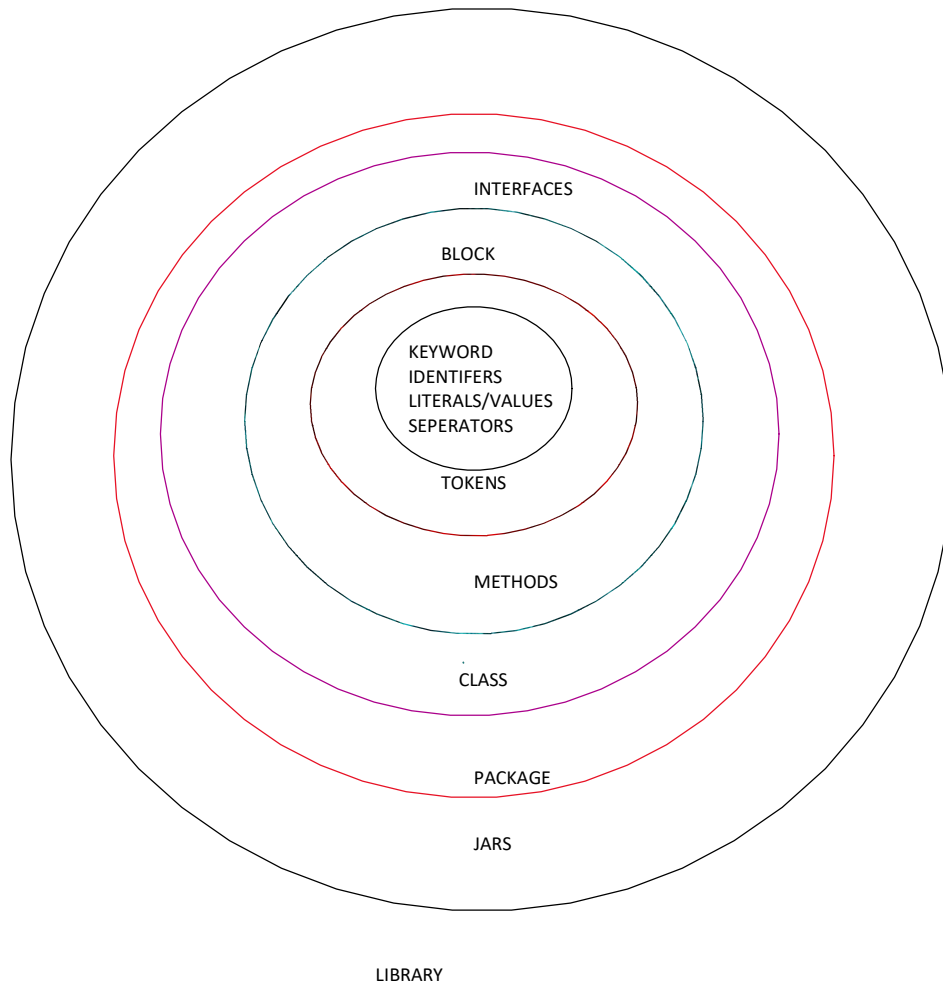
TOKENS

THE SMALLEST UNIT A PROGRAMMING LANGUAGE WHICH IS USED TO CREATE A PROGRAM IS KNOWN AS TOKENS

1. KEYWORD
2. IDENTIFERS
3. LITERALS/VALUES
4. SEPERATORS

KEYWORDS :

- KEYWORDS ARE PREDEFINED RESERVED WORDS DEFIENED BY THE PROGRAMMING LANGUAGE
- EVERY PROGRAMMING LANGUAGE HAS ITS OWN SET OF KEYWORDS
- ALL THE KEYWORDS IN JAVA ARE LOWERCASE

EXAMPLE : class, public, void, static, final, int, if, switch, etc

IDENTIFIERS

IDENTIFERS ARE THE NAME GIVEN/PROVIDE IN THE PROGRAM BY THE PROGRAMMER

RULES TO BE FOLLOWED TO GIVE NAMES :

➢ KEYWORDS SHOULD NOT BE USED
➢ CAN USE ALPHANUMBERIC VALUES

➤ ALWAYS STARTS WITH ALPHABETS

EXAMPLE :

Int **age;**

double **salary1;**

<u>NOTE :</u>

- **ALL THE VARIABLE NAMES , METHOD NAMES AND CLASS NAMES ARE IDENTIFERS**
- **IF THE RULES ARE NOT FOLLOWED WE GET COMPILE TIME ERROR**

CONVENTIONS

- CONVENTION ARE THE STANDARDS FOLLOWED BY THE INDUSTRY

RULES VS CONVENTIONS

SLNO	RULES	CONVENTIONS
1	RULE IS MANDATORY TO FOLLOW	CONVENTIONS IS NOT MANDATORY TO FOLLOW
2	JAVAC CHECKS FOR RULES	JAVAC DOESN'T CHECK CONVENTIONS
3	IF NOT FOLLOWED WE GET **CTE**	IF NOT FOLLWED WE WILL NOT GET **CTE**

IT IS ALWAYS RECOMMNDED TO FOLLOW CONVENTIONS

CONVENTION FOR CLASS NAME :

- CLASS NAME SHOULD BEGIN WITH UPPER CASE
- IF THE CLASS NAME IS COMBINATION OF MORE THAN ONE WORD , THE FIRST LETTER OF EVERY WORD SHOULD BE IN UPPER CASE AND REMAINING SHOULD BE IN LOWER CASE

EXAMPLE :

helloworld // WRONG CONVENTION
HelloWorld //correct convention

LITERALS/VALUES

- THE DATA/VALUES THAT IS USED IN THE PROGRAM IS KNOWN AS LITERALS

SL NO	TYPE	EXAMPLE	DESCRIPTION
1	INTEGER NUMBER	-1, -2, 0 , 2, 1	
2	DECIMAL NUMBER	1.0, 0.0, -1.1	
3	CHARACTERS	'a', 'b' , '2', ' '	1. CHARACTERS MUST BE ENCLOSED WITHIN SINGLE QUOTE 2. CHARACTERS ARE CASE SENSTIVES 'a' IS NOT SAME AS 'A' 3. LENGTH OF THE CHARACTER CAN NOT BE MORE THAN ONE
4	STRING	"HELLO" , "BitsQ", "a","2"	1. STRING MUST BE ENCLOSED WITHIN DOUBLE QUOTES 2. STRINGS ARE CASE SENSTIVE 3. LENGTH OF A STRING CAN BE ANYTHING
5	BOOLEAN	True, false	True and false ARE KEYWORDS OF JAVA

SEPERATORS

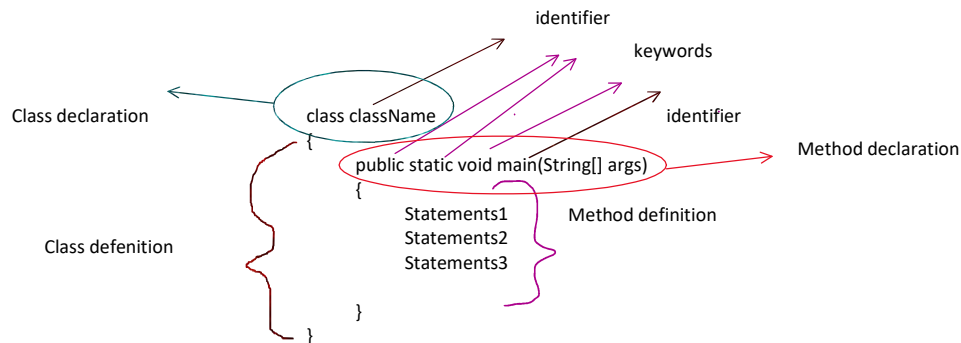| SEPERATOR	NAME	USE
.	PERIOD	IT IS USED TO SEPARATE THE PACKAGE NAME FROM SUB PACKAGE NAME AND CLASS NAME. IT IS ALSO USED TO SEPARATE VARIALBE OR METHOD FROM ITS OBJECT OR INSTANCE
,	COMMA	IT IS USED TO SEPARATE THE CONSECUTIVE PARAMETERS IN THE METHOD DEFENITION. IT IS ALSO USED TO SEPARATE CONSECUTIVE OF VARIABLE AND METHODS OF SAME TYPE WHILE DECLARATION
;	SEMI COLON	IT IS USED TO TERMINATE THE STATEMENT IN JAVA

()	PARATHENSIS	THIS HOLDS THE LIST OF PARAMETERS IN METHOD DEFENITION, ALSO USED IN CONTROL STATEMENT AND TYPE CASTING
{}	BRACES	THIS IS USED TO DEFINE THE BLOCK/SCOPE OF CODE, CLASS, METHODS
[]	BRACKETS	IT IS USED IN ARRAY DECLARATION

DEVELOPING JAVA PROGRAM INVOLVES 3 STEPS

1. **CODING**
2. **COMPILATION**
3. **EXECUTION**

CODING

- WRITING A JAVA PROGRAM IS KNOWN AS CODING
- HERE WE WRITE PROGRAMS USING JAVA STATEMENTS
- THE PROGRAM WRITTEN SHOULD BE SAVED EXTENSION ".JAVA". THIS FILE IS KNOWN AS JAVA FILE
- A JAVA FILE SHOULD HAVE CLASS DEFINITION BLOCK

NOTE : WHILE SAVING THE JAVA PROGRAM THE FILE NAME SHOULD BE SAME AS CLASS NAME.

COMPILATION

- IT IS THE PROCESS OF CONVERTING JAVA FILE INTO CLASS FILE
- THE CLASS FILE CONTAINS BYTE CODE
- JAVA COMPILER TRANSLATES JAVA STATEMENTS INTO BYTE CODE AT THE TIME OF COMPILATATION
- JAVA COMPILER GENERATES THE CLASS FILE AND SAVES THE CLASS FILE IN THE OCATION WHERE JAVA FILE IS AVAILABLE
- THE SYNTAX TO COMPILE ANY JAVA FILE IS

    JAVAC FILENAME.JAVA

EXECUTION

- RUNNING THE CLASS FILE IS CALLED EXECUTION
- THE JAVA EXECUTES TE BYTE CODE PRESENT IN THE CLASS FILE AND GIVES THE RESULT
- DURING EXECUTION JVM CONVERTS CLASS FILE INTO CPU UNDERSTANDABLE FORMAT
- JVM IS AN INTERPRETOR WHICH EXCEUTES THE STATEMENT LINE BY LINE
- SYNTAX TO EXECUTE CLASS FILE IS

    JAVA CLASSNAME

    Note :

- JAVA STARTS EXECUTION ONLY IF JAVA CLAS CONTAINS MAIN METHODS OTHERWISE JVM DISPLAY ERROR MESSAGE
- A JAVA CLASS WHICH DOESN'T HAVE MAIN METHOD CAN NOT BE EXCEUTED
- TO COMPILE JAVA FILE CHANGE THE WORKING DIRECTORY TO LOCATION WHERE JAVA FILE IS SAVED