**We will discuss below topic in today’s session:**

* Java Environment
* Project Structure
* Identifier
* Syntax
* Data Type and Variable
* Operator
* Condition Statement
* Loop

**Java Environment**

**JDK**: java development kit

**JDK Version**: **12**, 11, 1.9 /9, **1.8, 1.7**…..

Component of JDK:

* Javac : java compiler which convert source code (.java) to byte code (.class)
* JVM(JIT) : java virtual machine which allocate memory, deallocate, GC
  + - JIT: just in time which is interpreter, convert byte code to machine code
* JRE : java runtime environment which provides library

**Eclipse : is editor or IDE (integrated development environment)**

**: Oxygen, Neon 3, 2, 1, Mars 3, 2 1 e.t.c**

**Java Environment Variable:**

**JAVA\_HOME**

**-to set environment variable**

**-> go to computer properties -> advance setting -> environment variable**

**Project Structure**

**First Project:**

-**src:** source code

-**package**: is collection of class, or also known as module or folder

**-class1.java**

**-class2.java**

**-package2**

-**JRE:** java runtime environment/library

**Working java code:**

Source code -> javac -> .class(byte code) -> JVM (JIT) -> Native Code -> IO

**Identifier**

**Package:** reference of current folder/module

**Public:** access specifier, can be access from anywhere

**Class:** wrapper of data member and function

**Static:** single memory allocation, can be accessed without object or with class name

**Void:** return type which return null/no return

**Main:** entry function or reserved function

**String:** data type for alpha numeric

If

Else

Etc.

**Syntax**

// : single line comment

/\* : multiple line comment

\*/

; : termination of statement

[] : array, collection of data

{} : body of class, function , condition , loop ,try catch , array etc.

() : function , condition , loop

**Note:**

* Java is case sensitive
* Camel case

Class Name: Scanner , BufferedReader

Function/method: toUpperCase(), length(), charAt() **: pascal case**

**Variable name: f\_name, l\_name, fname**

**Data Type and Variable**

* **Global variable** 
  + **Instance variable**
  + **Static variable**
* **Local variable**

**char c=’1’;**

**char c[] ={‘1’,’m’,’a’};**

**String s =”sklhsjsujhs sj h1`233”**

**Operator**

Arithmetic:

+ - \* / %

Conditional/Relational:

* >= < <= == !=

**And - &&**

T T = T

T F = F

F T = F

F F = F

**Or - ||**

T T = T

T F = T

F T = T

F F = F

Increment/Decrement:

++

--

Postfix : i++, i—

Prefix: ++I, --i

Assignment Operator:

=

+= a =1; a = a+1 or a+=1

-=

\*=

/=

%=

Condition Statement

-if condition

-switch case

Loop

-while

-for

-do while

-advance loop / for each