Day 2

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☰ Tags	Intro Java

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Java JDK 15

Eclipse Enterprise for Java

Environment Variable

set path to java bin

```
java - interpreter
javac - compiler
```

Class - Blueprint

Object - Reality

Class

- Class name should be camel case

- Body within {}

- File Name and Class should be same

- javac - compile to .class

- .class - Unicode | interpret using java interpreter

```
// single line comment

/*
  Multiline comment 1
  Multiline comment 2
*/
```

package

- a namespace

- naming convention - start with package

- unique namespace & identity, should be in the 1st line

- no line before package

- every package need a directory

- -d [directory] used to automate package directory creation

import - namespace link - avoid redundancy - also known as namespace

classpath - classes associated with the main class, search for .class path

    set classpath=d:\temp2;.;

```
package pack2;

public class HelloWorld2 {

}
```

```
package pack1;

import pack2.HelloWorld2;

public class HelloWorld {

  HelloWorld2 hello2;
  HelloWorld2 hello3;
  HelloWorld2 hello4;

}
```

```
javac -d d:\temp ..\temp\HelloWorld.java
javac -d d:\temp2 ..\temp\HelloWorld2.java
java HelloWorld
```

10 AM - 12 PM

javap, javadoc, jar

```
javap - parsing java .class into .java
```

```
javadoc - doc about .java file into html file

javadoc HelloWorld.java
Genereate html docs
```

All of java class extend object class

And has one constructor

```
/**
* Used for document pupose
* And preface
* Will be parsed by javadoc
**/
```

```
jar -cvf myjar.jar *
  c - creation
  v - verbose
  f - file
  jar - java archive

set classpath=;

set classpath=d:\temp\myjar.jar;.;
```

jar - compress one or more directories + files into one

Can jar files can be set in the classpath

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Java

- Java was introduced by SMS
- Called JAVA as internet programming because of applet
- Platform Independent
- JVM - Java Virtual Machine
- OOP

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- 1991 Introduced
- 1994 Official Release
- Started with version 1.0 now 15.0
- 2009 Apr SMS SOLD JAVA to Oracle @5.6 Billion USD
- New JDK every 6 months

IDE

- Eclipse
- File → New → Java Project

- JRE to 15

- Name the Project

- .java in src .class in bin dirctories

- New → Class → HelloWorld

- sysout → System.out.println(); → Snippet

```java
/**
 * First program in Eclipse IDE
 */
package hello;

/**
 * @author VIGNESH J 3:38 PM 3/9/2021
 */
public class HelloWorld {

  public static void main(String[] args) {
    if (args.length > 0) {
      System.out.println("Hello," + args[0]);
    } else {
      System.out.println("Hello whoever");
    }
    System.out.println("Hello, World!");

  }

}
```

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- Run as Java Application

- Add break point for debug (pause)

- Debug as Java Application

- Resume to go next or F8

```
Strirng[] args
// Array of strings passed from commandline
```

- RUN from commandline for passing arguments

```
java HelloWorld CODA

//Output -> Hello, CODA
```

Access Protection

Aa #	Private	No Modifier	Protected	Public
Same Class	YES	YES	YES	YES
Same package sub class	No	YES	YES	YES
Same package non subclass	No	YES	YES	YES
Different package sub class	No	NO	YES	YES
Different package non sub classs	No	NO	NO	YES

Inheritance

- Code Reusablity
- Object Reusability
- Part hole Error
- Compostion
- Polymorphic Quires
- Eliminate if else if

Encapsulation

- Binding

- Where to bind

  - What to bind

- Hiding

Polymorphism

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