

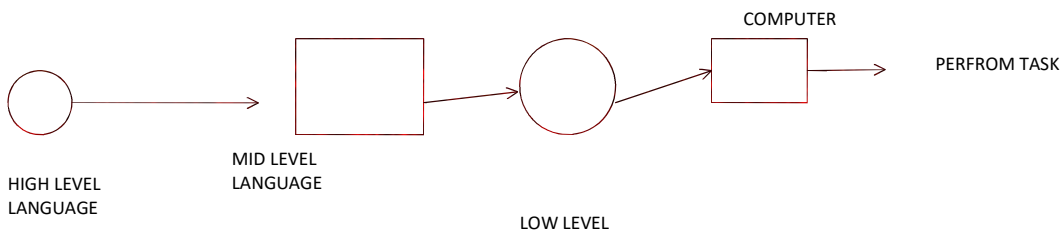
# DAY-4

15 June 2023 16:04

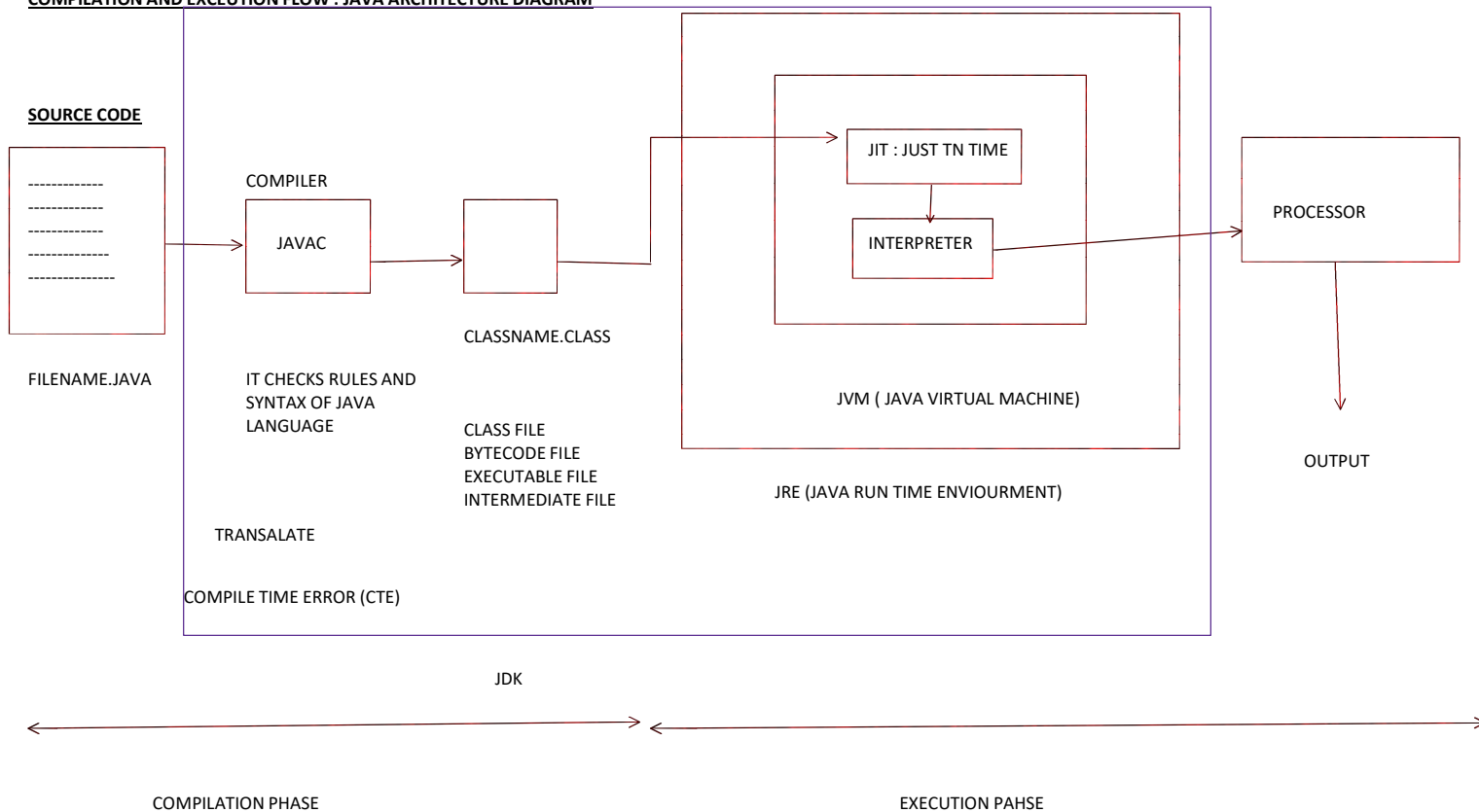
## FEATURES OF JAVA

A LIST OF MOST IMPORTANT FEATURES OF JAVA LANGUAGE IS GIVEN BELOW :

- **SIMPLE**
- OBJECT-ORIENTED
- PORTABLE
- PLATFORM INDEPENDENT
- SECURED
- ROBUST
- ARCHITECTURAL NEUTRAL
- INTERPRETED
- **HIGH PERFORMANCE**
- MULTI THREADED
- DISTRIBUTED
- DYNAMIC



## COMPILATION AND EXECUTION FLOW : JAVA ARCHITECTURE DIAGRAM



## COMPILER/INTERPRETERS

IT IS SYSTEM SOFTWARE, THEY ARE USED TO TRANSLATE A HIGH LANGUAGE INTO MACHINE UNDERSTABLE LANGUAGE

## WHAT IS JVM (JAVA VIRTUAL MACHINE)

IT IS A SOFTWARE WHICH PERFORMS THE OPERATION LIKE A PHYSICAL MACHINE BUT ITS PHYSICAL EXISTENCE IS NOT THERE

### WHAT IS JRE (JAVA RUN TIME ENVIRONMENT) ?

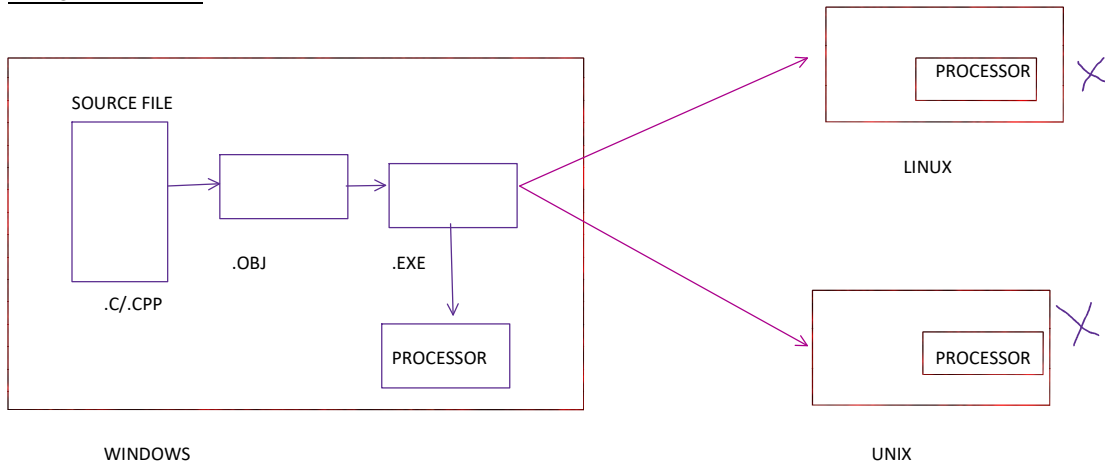
IT IS A SOFTWARE WHICH PROVIDES ALL THE NECESSARY LIBRARIES REQUIRED TO EXECUTE THE JAVA PROGRAMS

### WHAT IS JDK (JAVA DEVELOPMENT KIT)

IT IS A SOFTWARE WHICH CONTAINS THE NECESSARY COMPONENTS REQUIRED FOR COMPILE AND EXCEUTE THE JAVA PROGRAM

- ALL JAVA STATEMENTS ARE SAVE AS JAVA FILES WITH AN EXTENSION " .JAVA"
- THE COMILER GENERATES CLASS FILE BASED ON JAVA FILE
- CLASS FILE CONTAINS BYTECODE WHICH UNDERSTOOD BY ONLY JVM
- JVM IS AN INTERPRETER, IT CONVERTS BYTE CODE LINE BY LINE INTO MACHINE LEVEL LANGUAGE
- JAVA COMPILER AD JRE TOGETHER IS CALLED AS **JDK**
- JAVA IS A PLATFORM INDEPENE, i.e, ONLY NEED CLASS FILE TO EXECUTED IN ANY PLATFORM

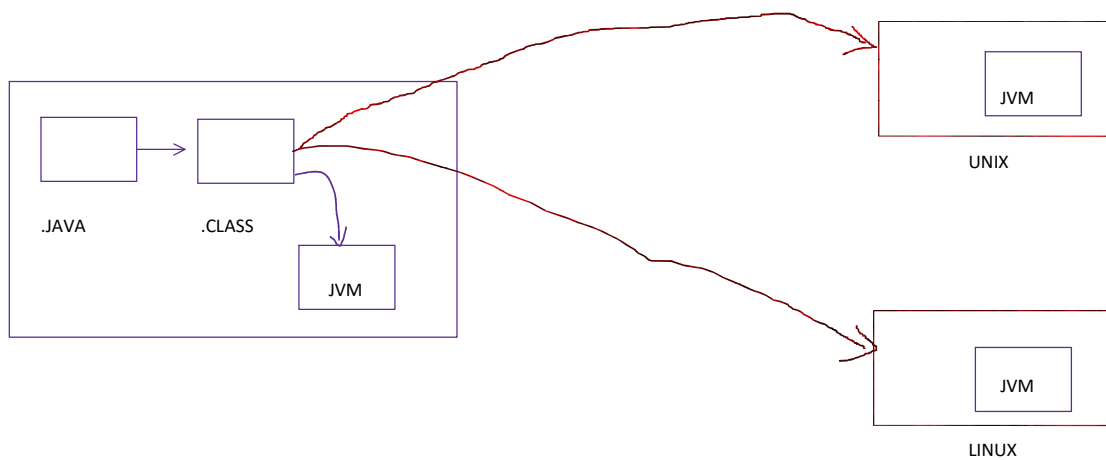
### PLATFORM DEPENDENT



### PLATFORM DEPENDENCE

- A PROGRAM COMPILED AND EXECUTED IN ONE PLATFORM CAN NOT EXECUTED DIRECTLY IN OTHER PLATFORM JUST BY COPYING .EXE FILE
- THIS FEATURE IS KNOWN AS PLATFORM DEPENDANCE
- IF YOU WANT TO EXCEUTE THE PROGRAM IN ANOTHER PLATFORM WE NEED TO COMPILE AGAIN AND THEN EXCEUTE IT.


### PLATFORM INDEPENDENT



### PLATFORM INDEPENDENT

PROGRAM WRITTEN IN NE PLATFORM CAN BE EXECUTED IN OTHER PLATFORM WITHOUT RECOMPILING AGAIN. THIS FEATURE IS KNOWN AS PLATFORM INDEPENDENT

### **SOFTWARE REQUIRED**

- JAVA COMPILER
  - JRE
- 
- JDK

JDK 1.8

### **EDITORS**

- NOTEPAD
- WORDPAD
- NOTEPAD++
- TEXTPAD
- EDIT PLUS
- ECLIPSE - IDE