

DSE 2153

Object Oriented Programming

The kick start session

Lecture #0



Programming in JAVA

DSE 2153

- L - 3
- T - 1
- P - 0



Note: Laptop is compulsory.

Course Objectives

- Develop simple applications using JAVA primitives (data types, operators, arrays, variables).
- Understand the implementation of JAVA for object oriented concepts.
- Use inbuilt library packages of JAVA.
- Develop JAVA applications using object oriented concepts.
- Write simple concurrent programs using threads.

Course Contents?



Course Contents

- Introduction to Java Editions, JDK, JRE and basic programming constructs e.g. conditional statements, looping statements, operators and arrays etc.
- Classes, Methods and Objects
- Encapsulation, Inheritance and Polymorphism
- Strings
- Packages
- IO Fundamentals
- Exceptions and Assertions
- Generic Programming
- Java Collection Framework
- Event Handling
- Swings

Java 2
Enterprise
Edition

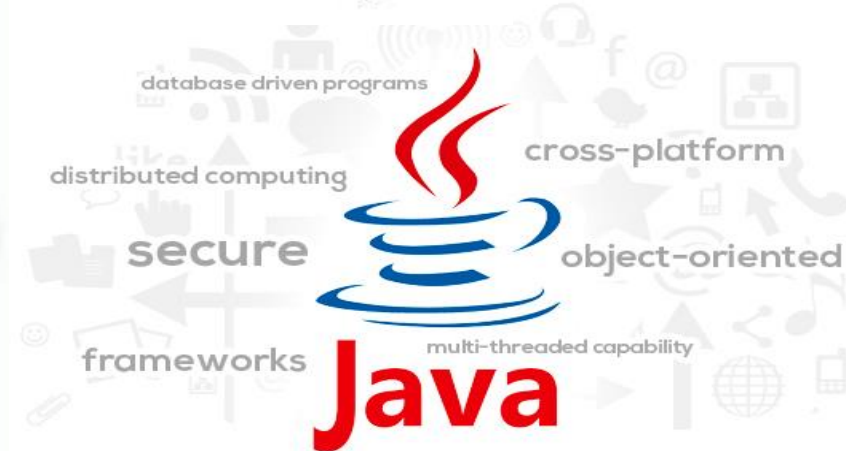
Java 2
Standard
Edition

Java 2
Micro
Edition

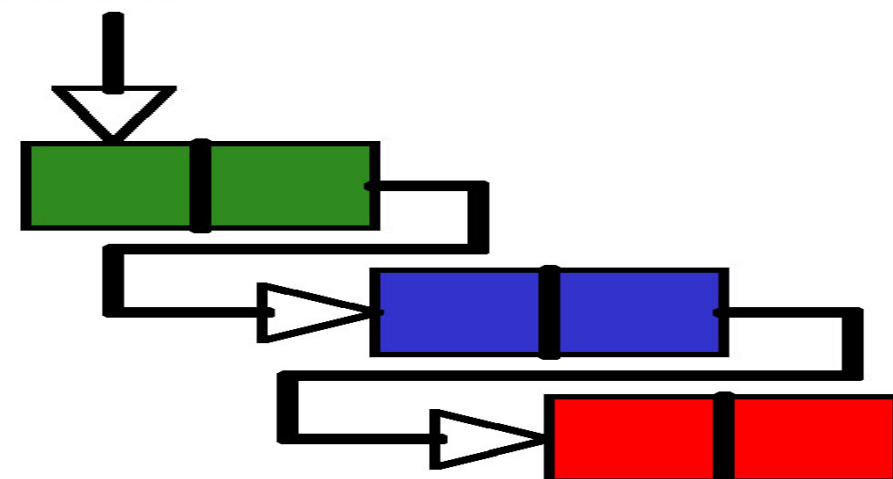


WORA

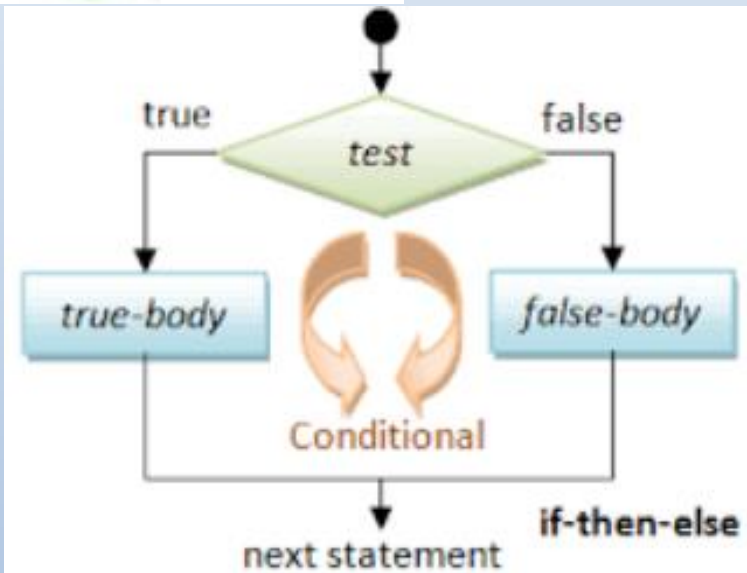
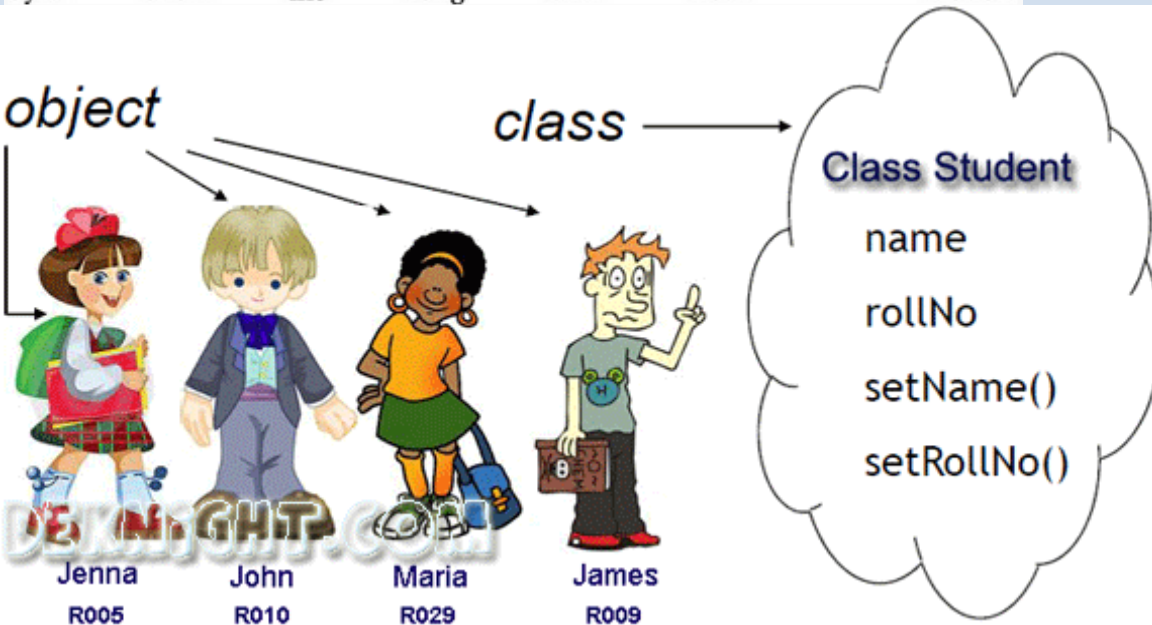
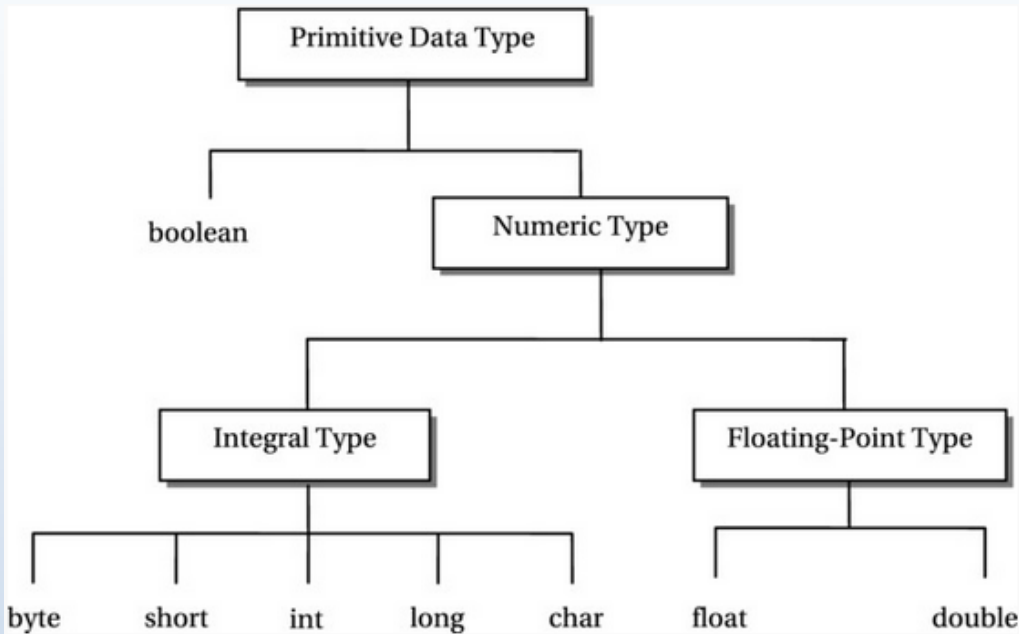
Write-Once-Run-Anywhere



list



Platform Overview, Writing Programs, Basic & Exclusive Features



Class

```

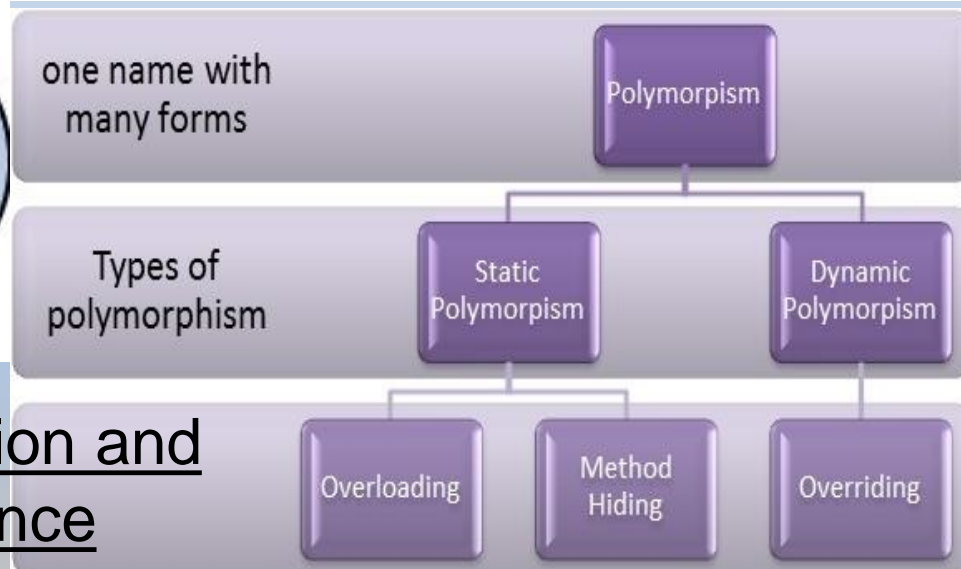
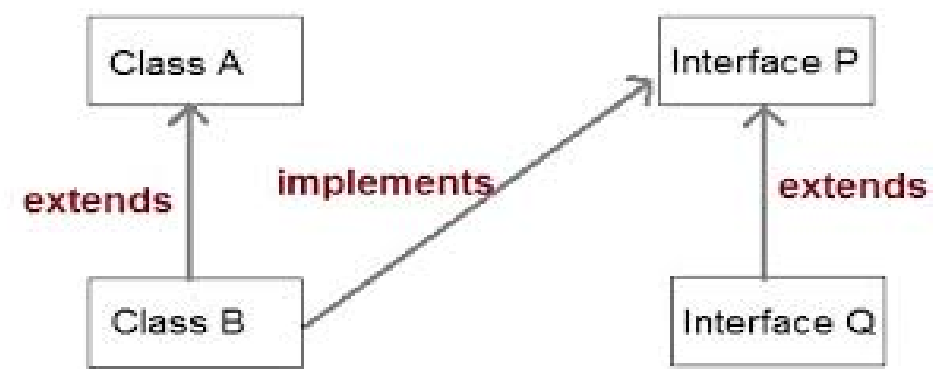
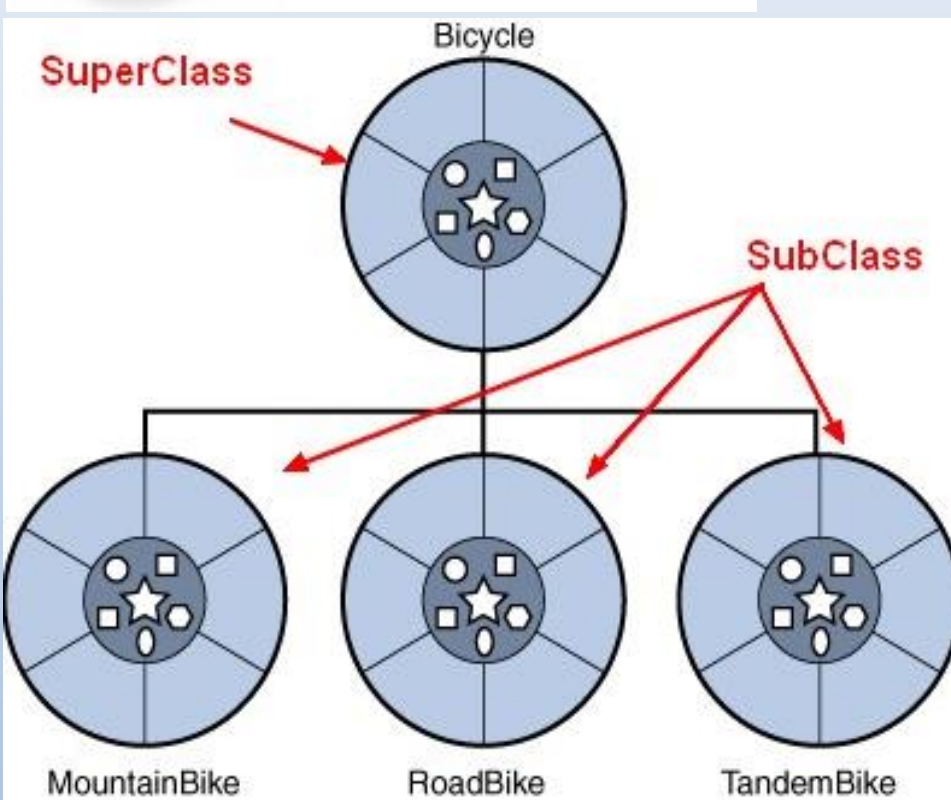
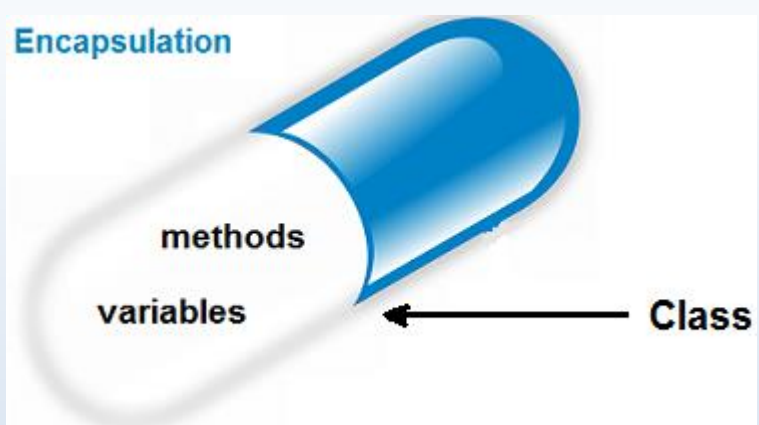
public class Book{
    String name;
    String author;
}
  
```

Object

`Book objBook = new Book();`

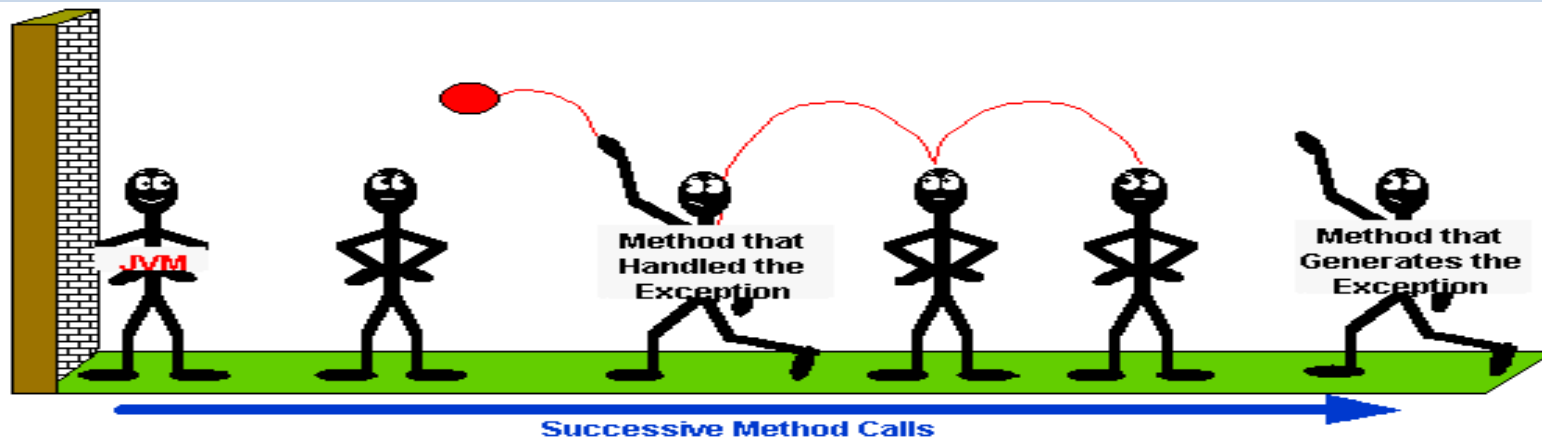
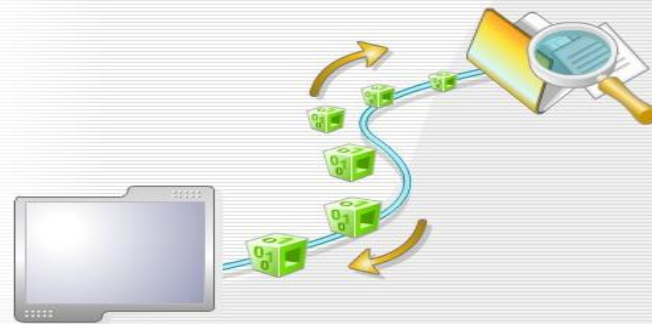
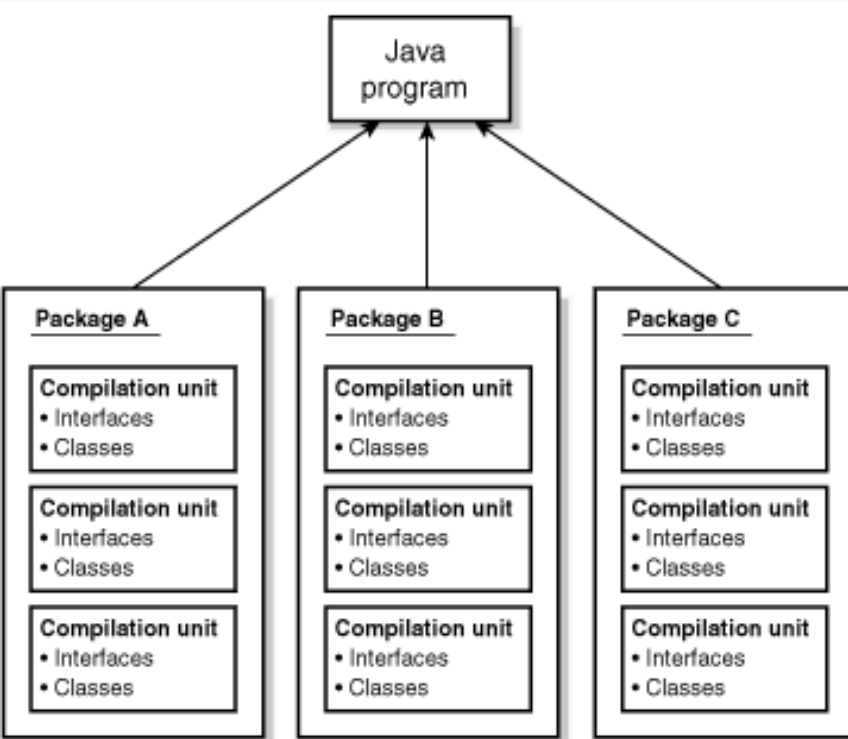


Classes, Objects,
Conditionals, loop, Date/Time
API etc.



Encapsulation and Inheritance

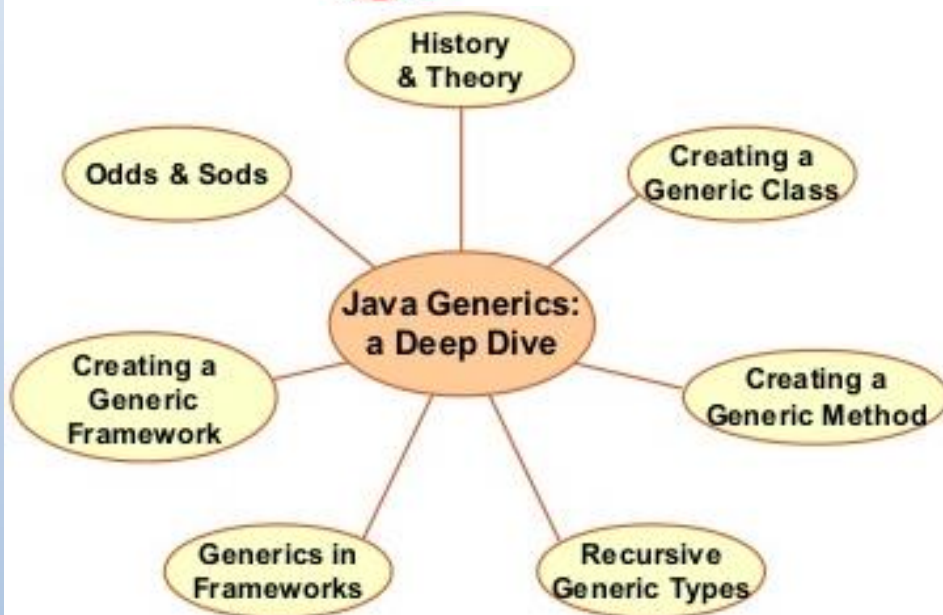
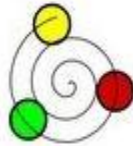
Programming with I/O Streams



JAVA

Collections

How does
HashMap
work?

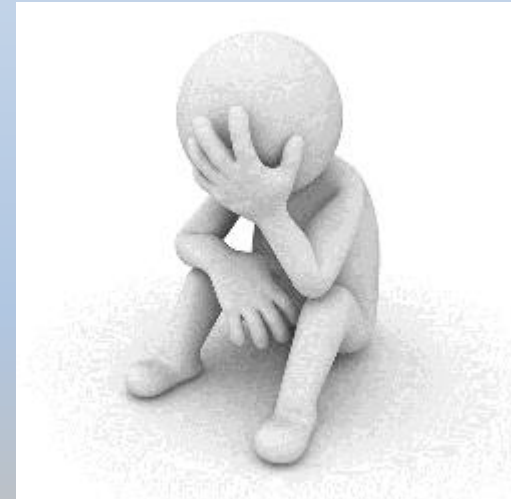


Collections and Generic Programming

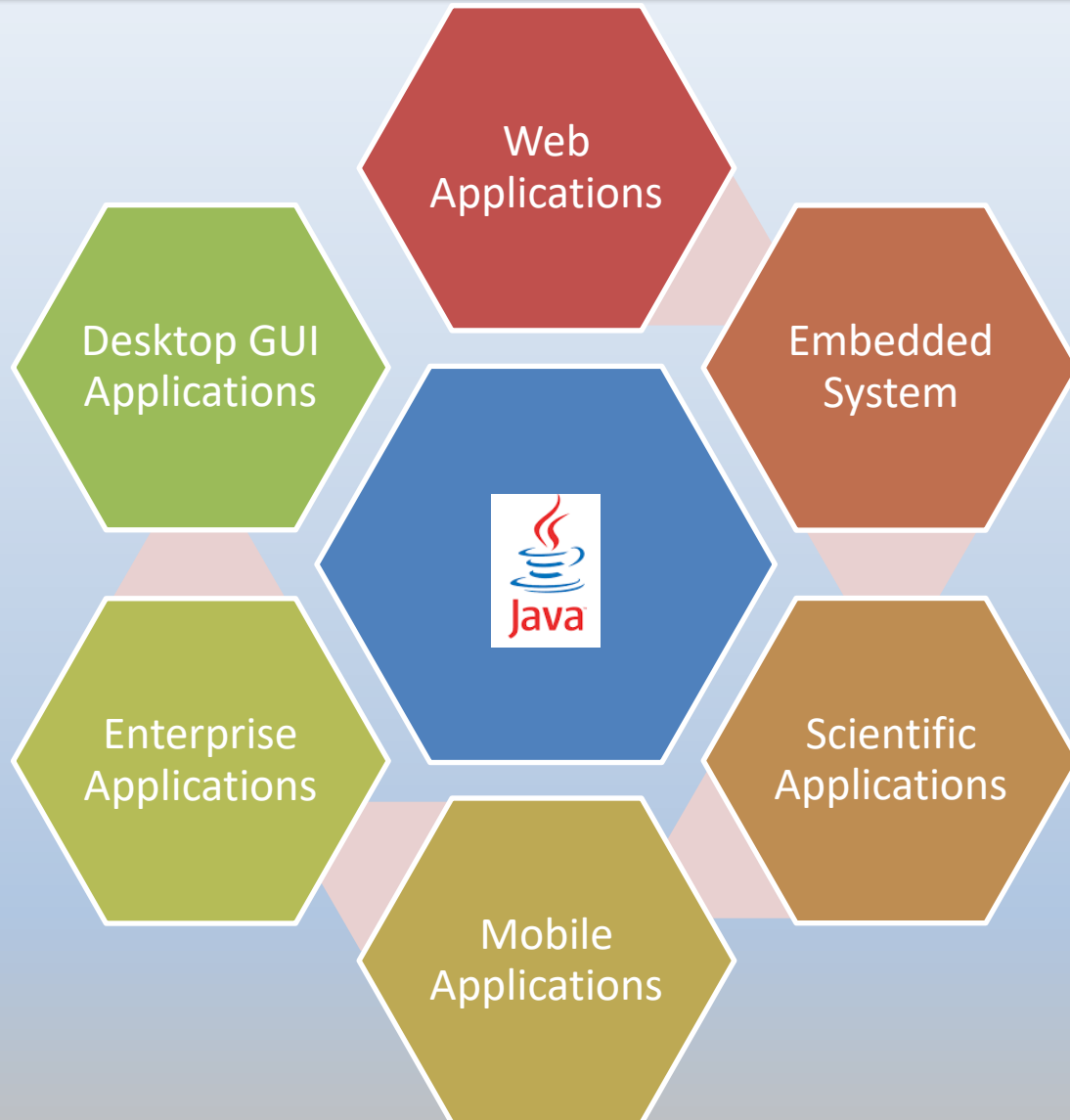
The Hitch...

BURNING questions in mind...

- Why are we learning Java?
- What will be the course outcome?



Applications of Java



Course Outcomes

Upon completing the course, you will be able to

- ✓ Understanding JDK, JRE, JVM etc.
- ✓ Create, compile, and run Java programs
- ✓ Understand Core Java classes
- ✓ Create and use methods
- ✓ Establish a firm foundation on Java concepts
- ✓ Exception Handling, Date/Time API and IO Streams usage

Software Requirement

- jdk 16.0.2
- Eclipse 2021-06 IDE

Installation Steps

- Install JDK 16.0.2

The screenshot shows a Google search interface with the query 'java jdk'. The search results page displays 'About 2,17,00,000 results (0.45 seconds)'. Below the search bar, there are tabs for 'All', 'Books', 'News', 'Shopping', 'Videos', and 'More'. The search results include a suggested link for 'java jdk eclipse' and a link to 'https://www.oracle.com › java › technologies › javase-d...'. The main result is 'Java SE - Downloads | Oracle Technology Network', which includes a description of the Oracle JDK and a link to 'JDK Download'. The sidebar on the right shows a collage of images related to the 'Java Development Kit', including the Java logo and various installation windows.

Google

java jdk

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<https://www.oracle.com › java › technologies › javase-d...>

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Documentation Download
Java SE Development Kit 8u301 Documentation. This software is ...

JRE Download
Do you want to run Java™

Java Development Kit
Software

The Java Development Kit is an implementation of either one of the Java Platform, Standard Edition,

Installation Steps

- Eclipse 2021-06

The screenshot shows a Google search for "eclipse download". The search results page displays the Eclipse IDE download page from <https://www.eclipse.org/downloads>. The page title is "Download Eclipse Technology that is right for you". The main text says "Get **Eclipse** IDE 2021-06. Install your favorite desktop IDE packages. **Download** x86_64". There are links for "Download Packages | Need Help? Eclipse ..." and "You've visited this page 2 times. Last visit: 24/8/21". At the bottom, there are two links: "Eclipse IDE for Java Developers" and "Packages".

Google
eclipse download

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[Eclipse IDE for Java Developers](#) [Packages](#)

The essential tools for any Java The Eclipse Installer 2021-06 R

Professional Benefits

- In future, to get dream job.
- Expand your knowledge base and validate your skills to appeal to potential employers.
- Improve your potential earning power to command a higher salary.
- Learn to perform complex, hands-on activities through lab, study and practice sessions.
- Access a secure digital badge you can add to your social media profiles.
- Gain exposure to a wide variety of important features, functions and tasks to use on the job.



Next Class: Introduction to Java

**Let us meet
for the class....**

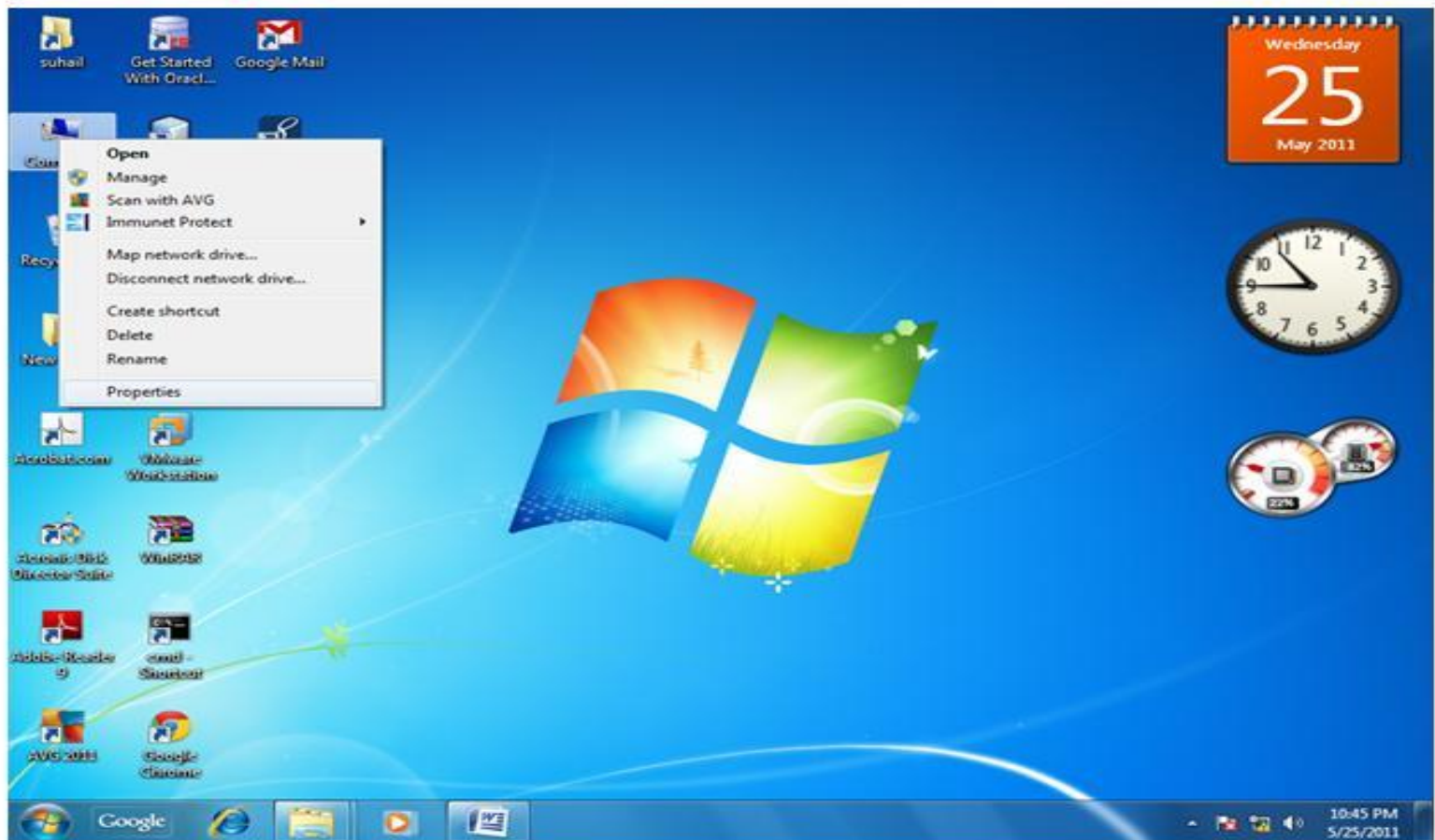
How to set Path in Java

- The path is required to be set for using tools such as javac, java etc.
- If you are saving the java source file **inside** the jdk/bin directory, path is not required to be set because all the tools will be available in the current directory.
- But If you are having your java file **outside** the jdk/bin folder, it is necessary to set path of JDK.
- There are 2 ways to set java path:
 - Temporary
 - Permanent

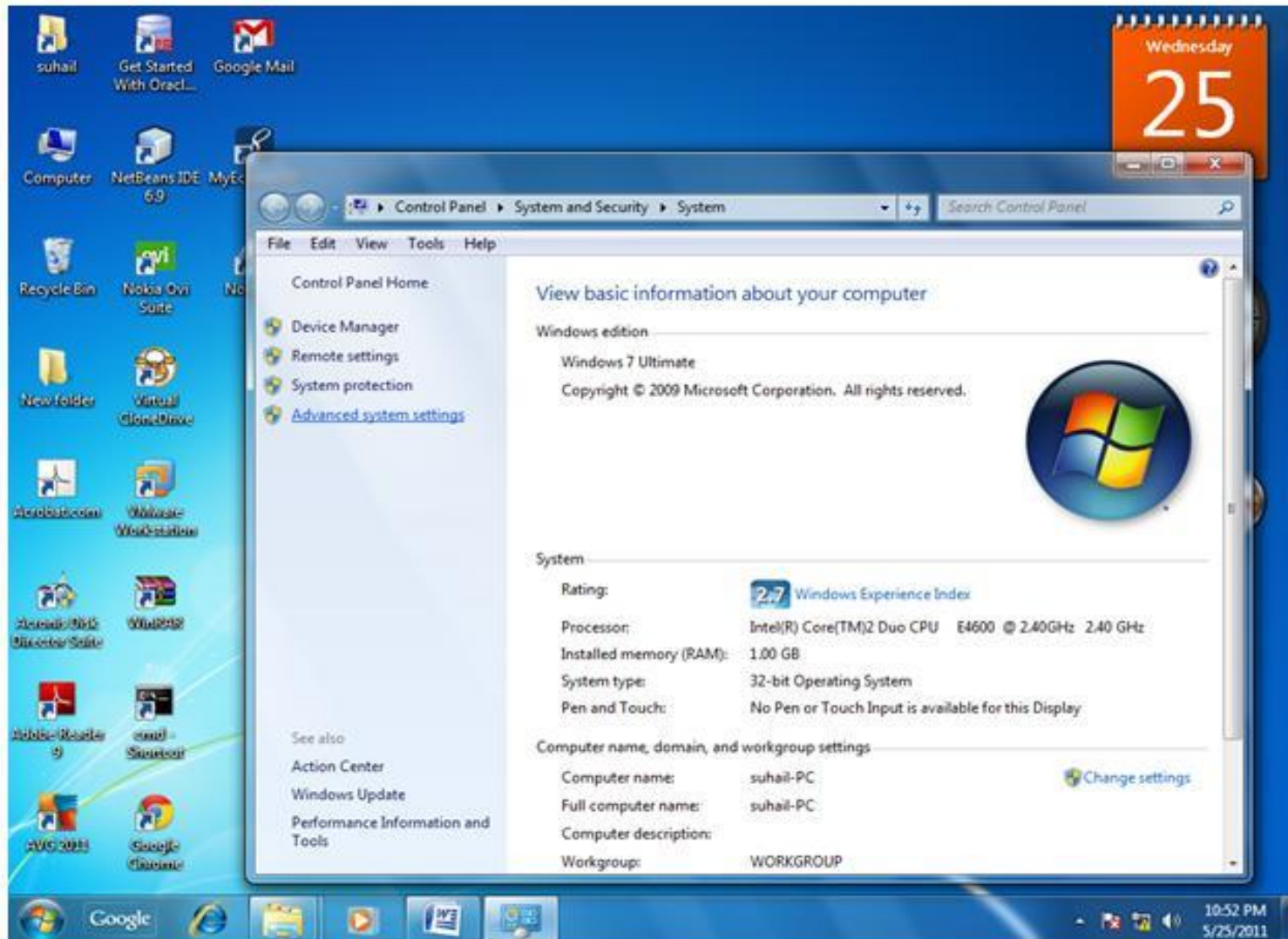
- For setting the permanent path of JDK, you need to follow these steps:
- Go to MyComputer properties -> Advanced tab -> Environment variables -> new tab of user variable -> write path in variable name -> write path of bin folder in variable value -> ok -> ok -> ok

Example

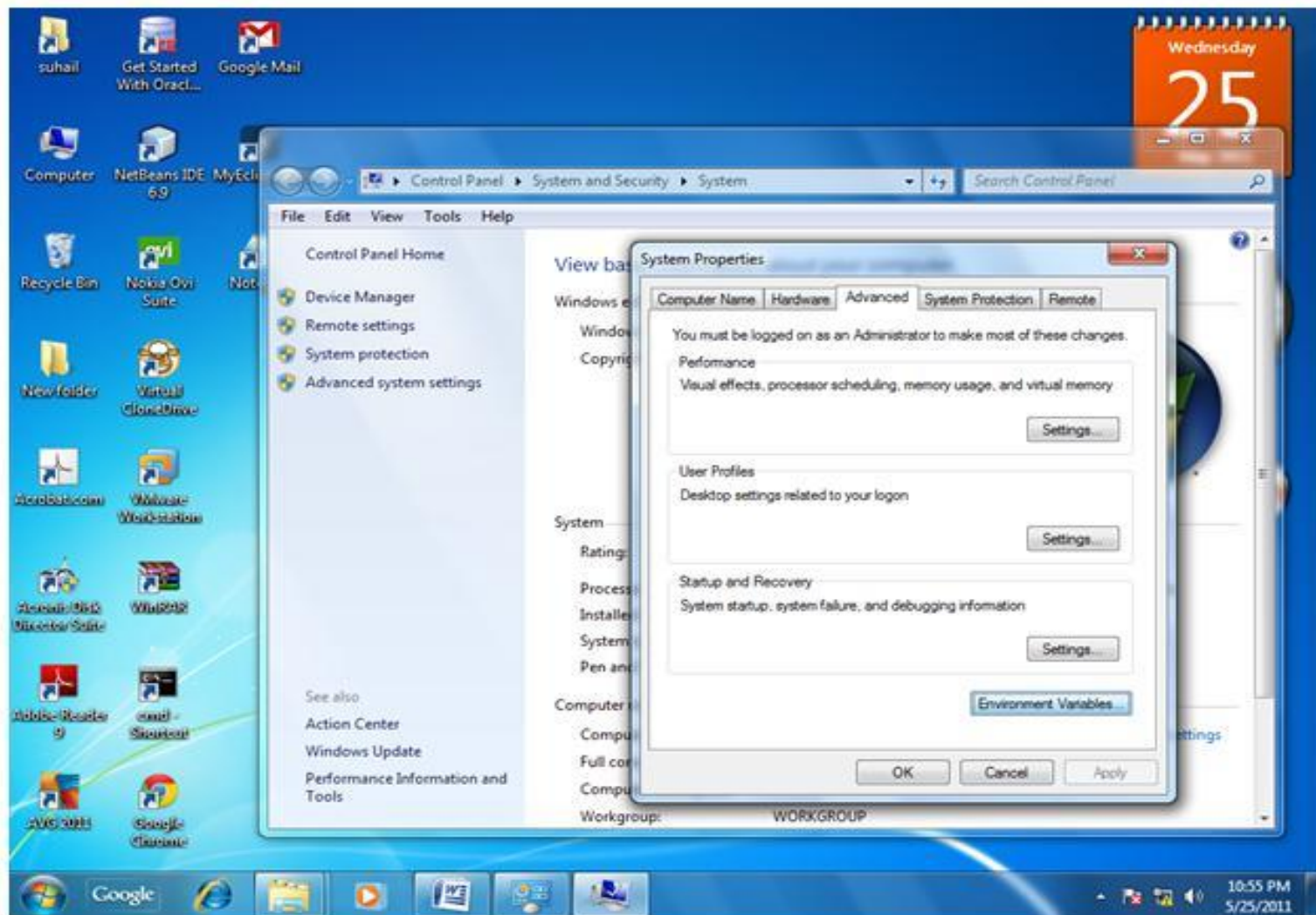
1) Go to MyComputer properties



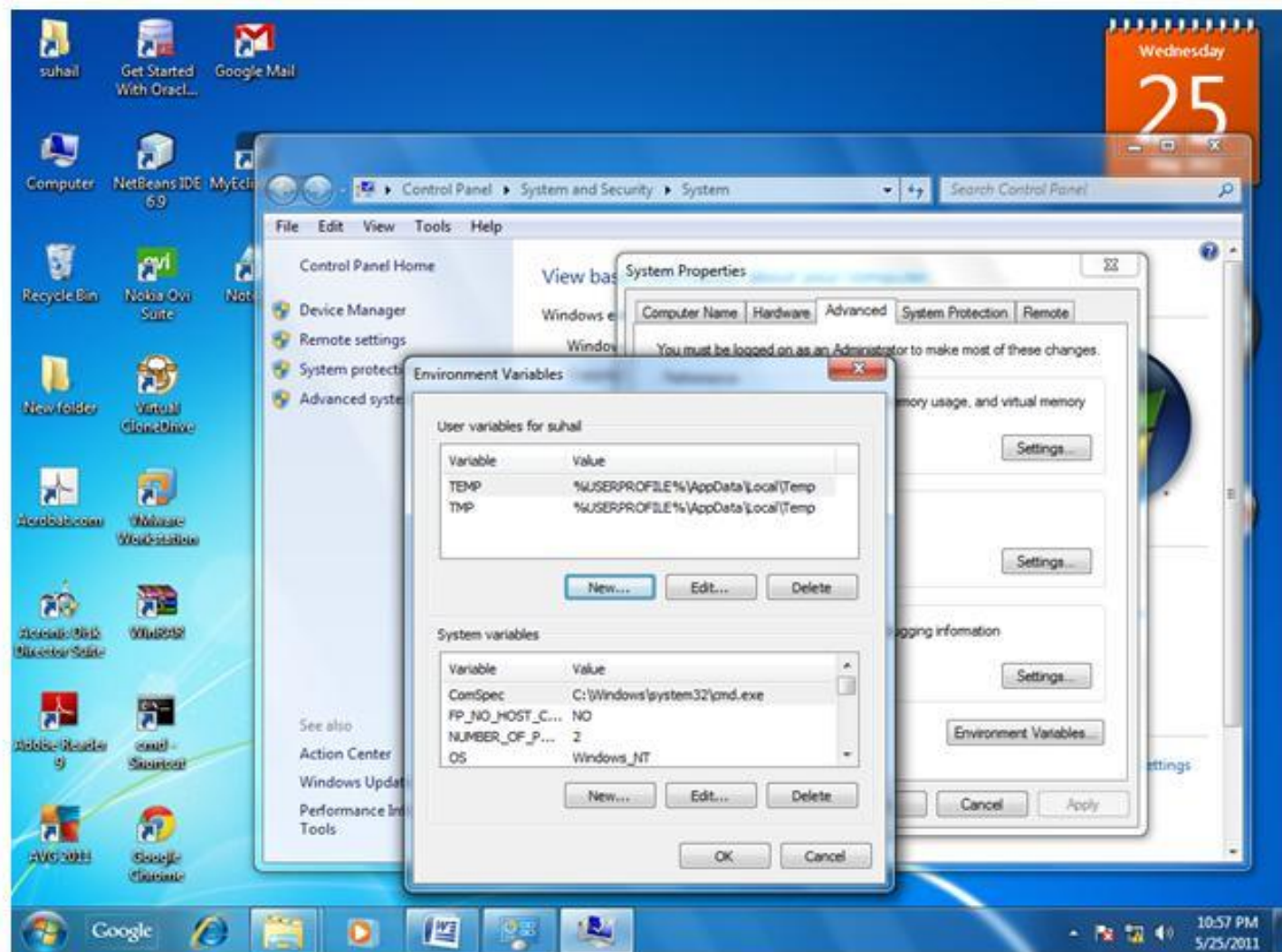
2)click on Advanced System Settings tab



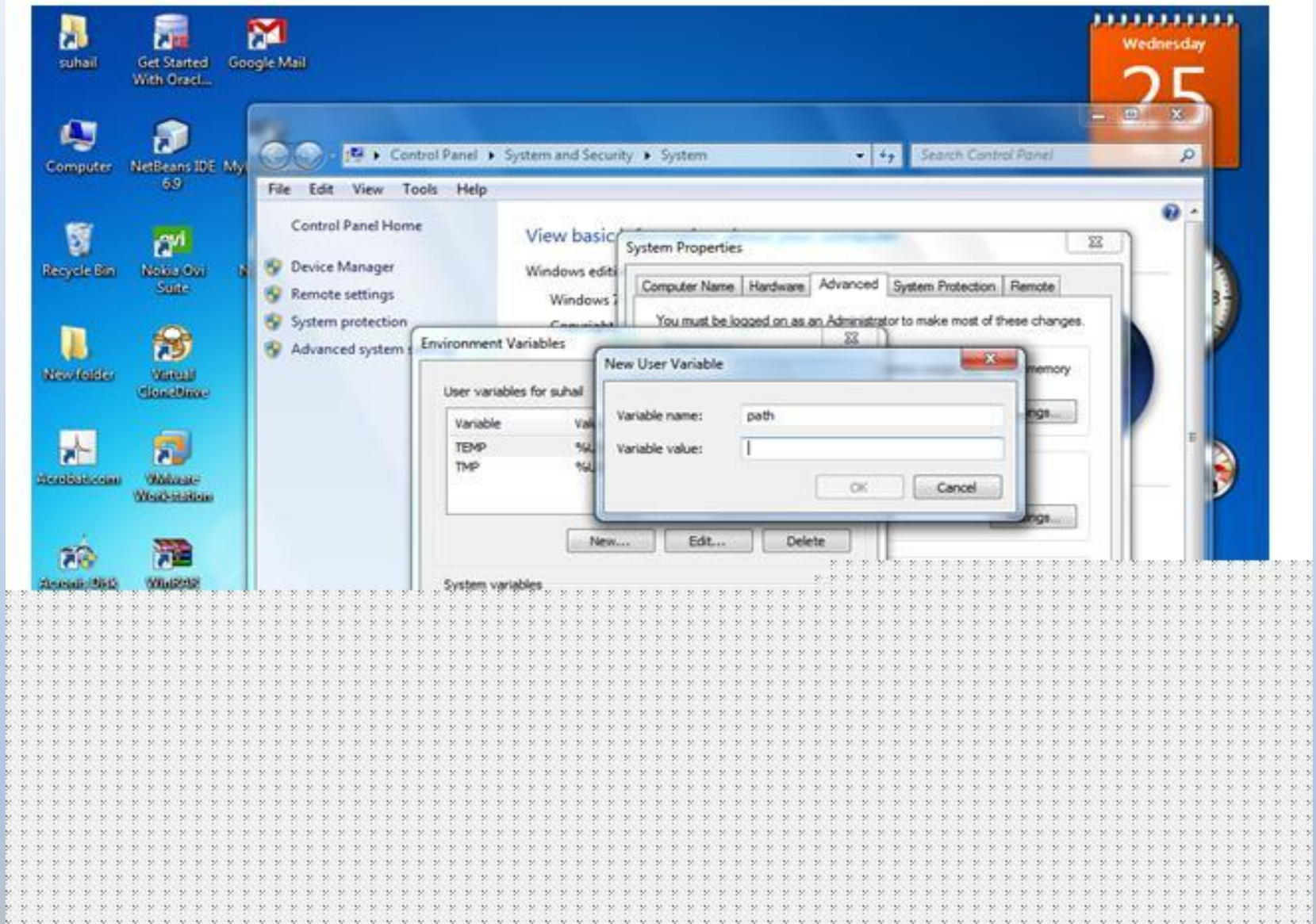
3)click on environment variables



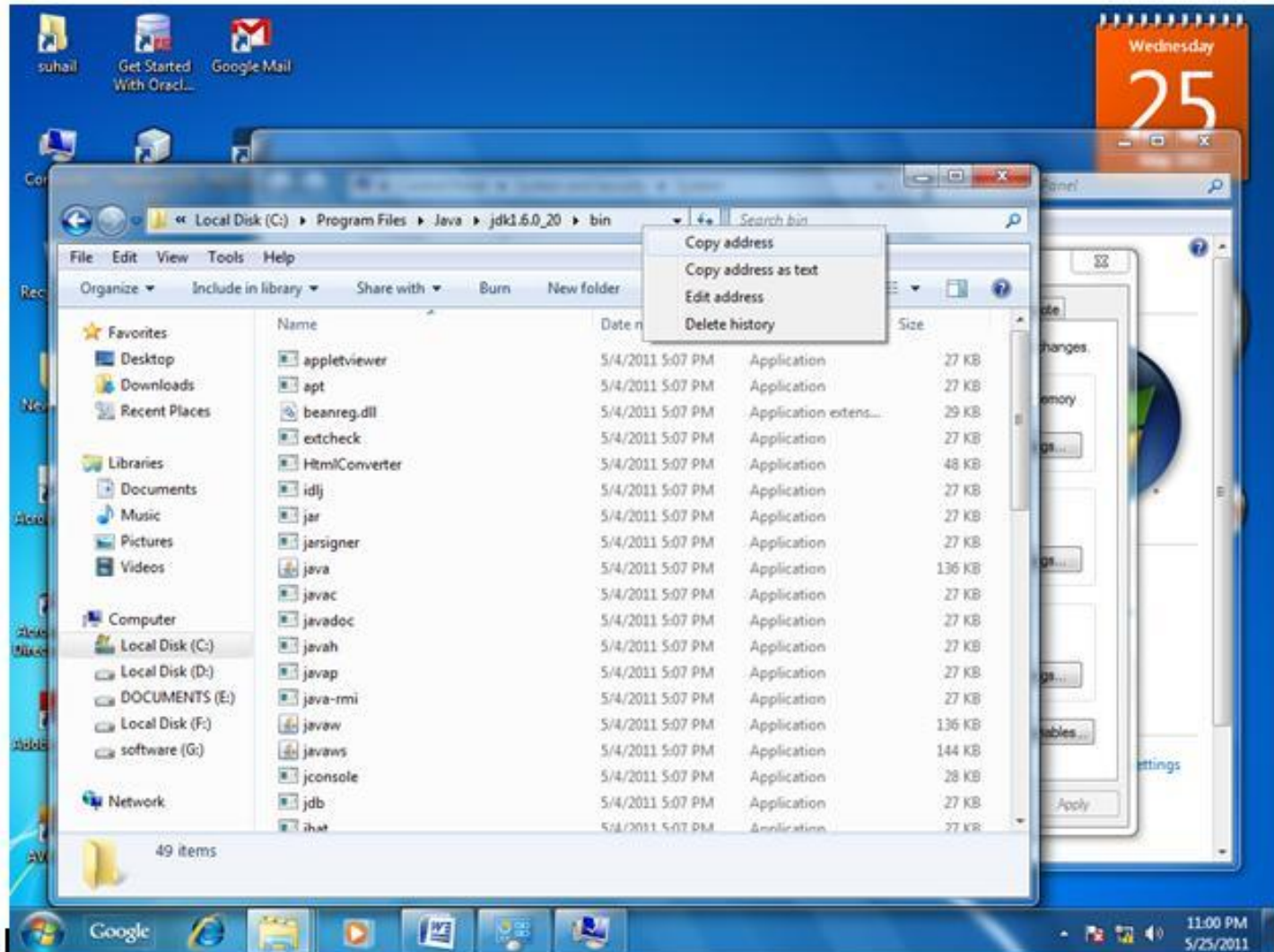
4)click on new tab of user variables



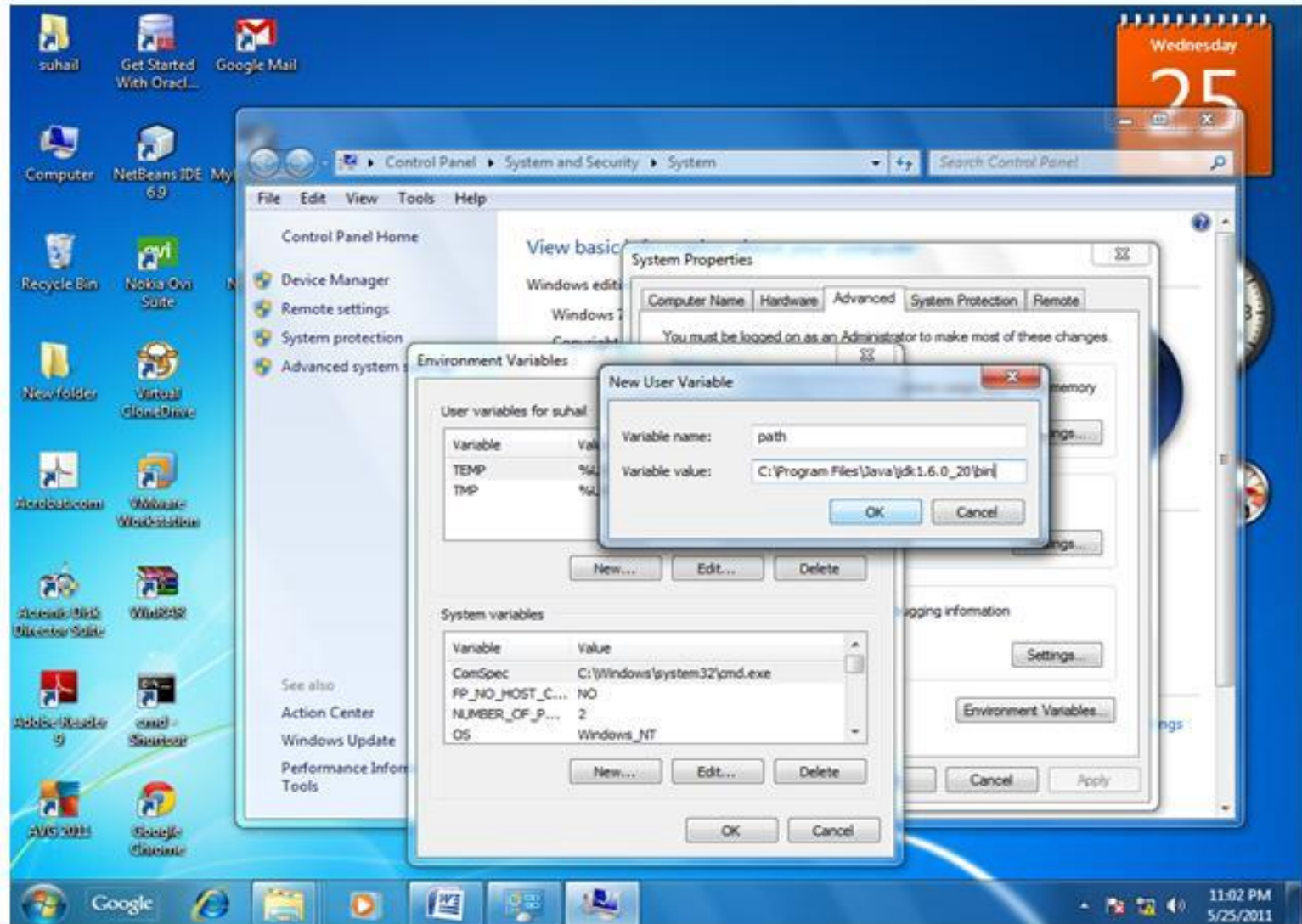
5)write path in variable name



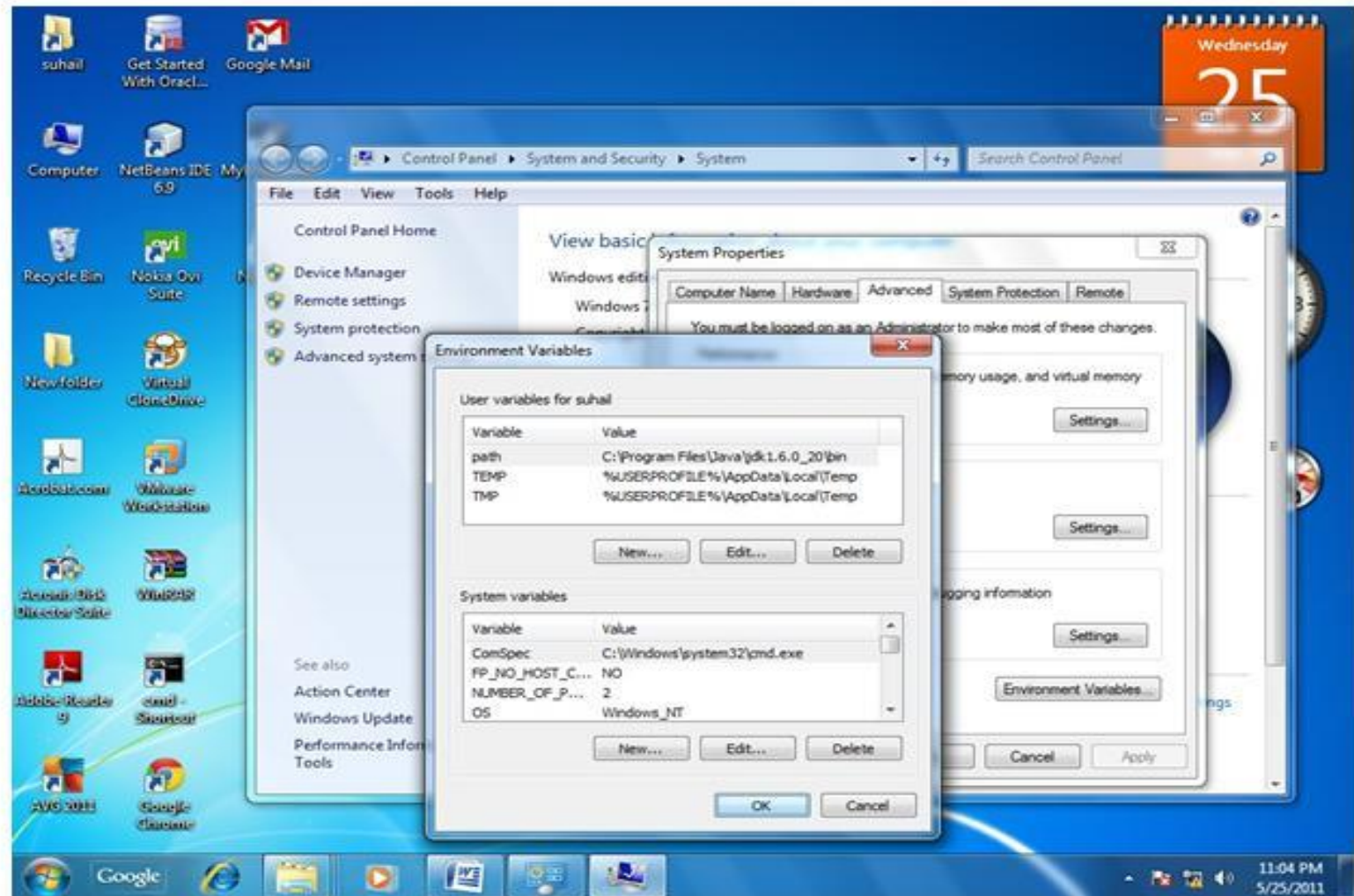
6) Copy the path of bin folder



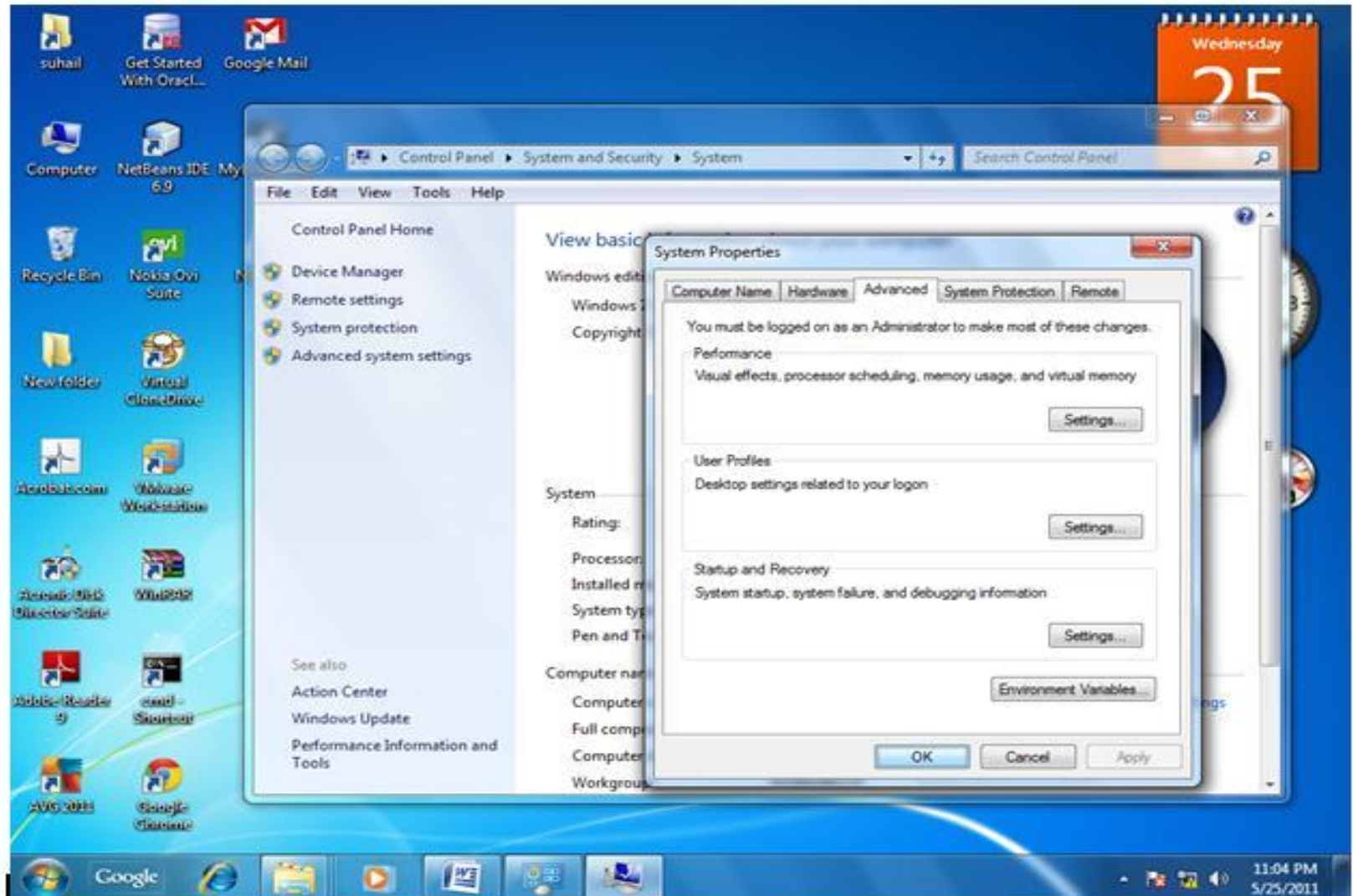
7) paste path of bin folder in variable value



8)click on ok button



9)click on ok button



- Goto Mycomputer's Properties, select Advanced Settings, click Environment Variables, In Advanced , in second windowselect path in that at end put semicolon and copy the path from c:-> program files-> java-> jdk->bin, copy this complete path and paste at the end of pATH in environment variable.
- Open CMD, type javac....it will show all the directories(it confirms that java has been installed successfully)