

▷ Learn and Understand basic Concept of object
Oriented Programming -

abstraction → Using simple thing to represent complex
-ty we all known how to turns the TV on but
we don't need to knew how its works is order
to enjoy it In Java abstraction means simple

Things like object class and repeat more complex
underlying code and data This is important
because it lets you avoid represent the
same work multiple time.

Encapsulate → The practice of keeping field
within a class private Then providing access
to those field via public method Encapsula
tion is a protective barrier that keep
the data and code safe within class itself
we can then reuse object like code
component or variable without allowing
open access to the data structure
wide.

Inheritance → A special feature of object Oriented programming in Java. Inheritance lets programmer create new class that share some of the attribute of existing class. Using inheritance let us build on previous work without rewriting the program.

Polymorphism → Allow programmer to use the same word in Java to mean different thing in different contexts. One form of polymorphism is method overloading. That's when the code itself implies different meaning. The other form is method overload that when value of the supplied variable imply different meaning.

3) Learn and Understand feature of Java.

Feature of Java

- object Oriented
- Simple
- Secured
- platform Independent
- Robust
- portable.
- Architecture Neutral
- Dynamic
- Interpreted
- High performance
- Disk oriented.

* Simple -

- * Storage classes
- * preprocessors and header files
- * Multiple inheritance
- * operator overloading
- * goto statement.

3) Learn and Understand Installation of Java

→ platform independent -

Byte Code is further translated by JVM

This is where the "write one" run anywhere

where Java comes in.

→ Portable →

* can run Java bytecode on any hardware

* Machine independent

→ Architectural neutral →

* OS Independent

→ Object Oriented -

* Encapsulation Abstraction Inheritance

* Comon on execution set of classes
organized package.

→ Robust →

* handling runtime errors

* has strong memory management

→ Secure →

* Support access Modifiers

* pgm run in VM send back

3) Learn and Understand Installation of Java
JDK and Configure the same.

Windows operating Systems-

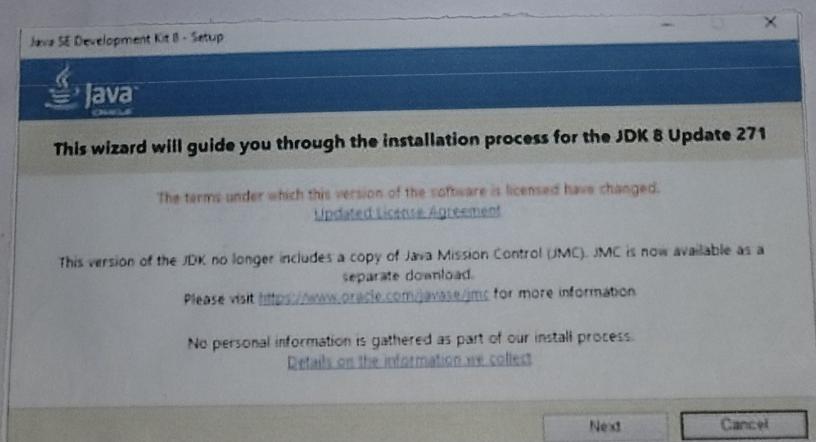
The steps for setting the environment in the Windows operating system are as follows.

Step 1 → you can download the JDK 8 from this link click (ctrl + click) here (jdk software)

on
you can download from <https://www.oracle.com/java/technologies/javase/jdk8-downloads/>

[for this you have to create an account on oracle].

Step 1 →

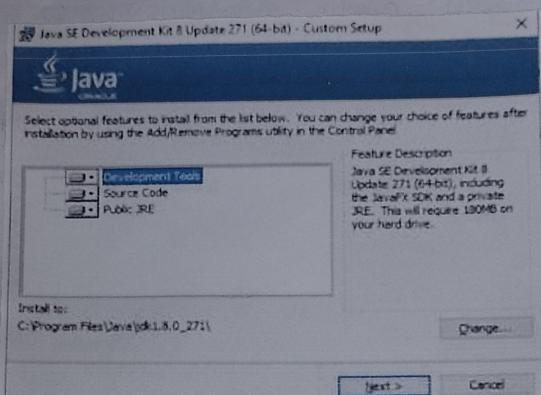


Please download and extract the setup file
and run the setup file.

Step 4 →

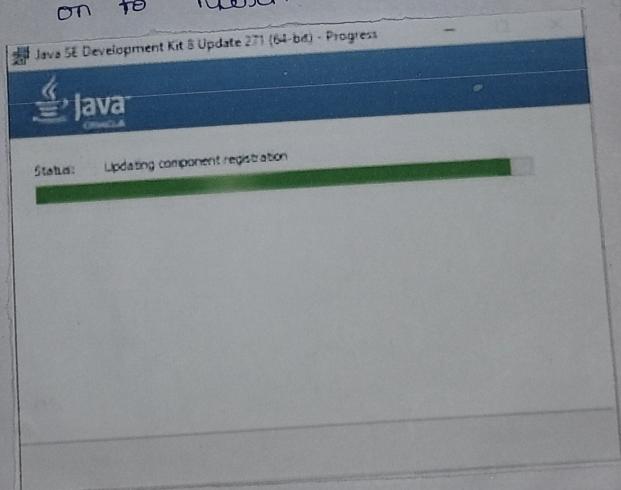
If you want to change the JRE etc.

click on the jdk - 8u271 - windows
exe file and click on Next button



Step 2 →

If you want to change it or else let it be
default depend on your convenience Then click
on to Next.

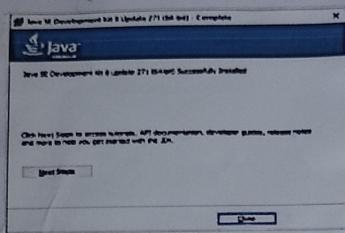


Step 3 →

This given the window for installing wait
till it goes to another window.

Step 4 →

If you want to change the JRE path you can change it or else let it be depend on your convenience and click on next

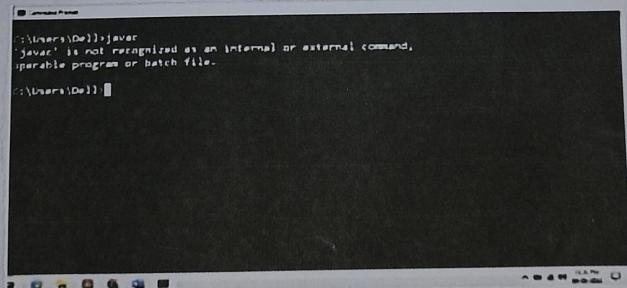


Step 5 →

wait until it complete.

Step 6 →

Now you have successfully installed JDK software only when you click Finish/ close button go Command enter the java



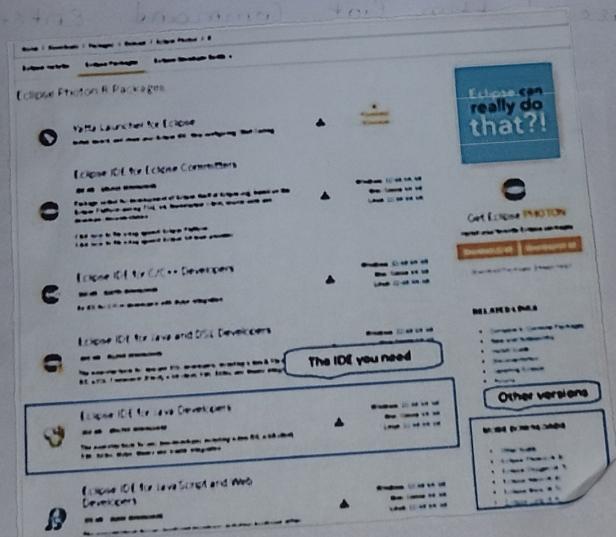
Learn and understand Installation of Eclipse IDE

Install Java editor (Eclipse IDE for Enterprise Java) and workspace

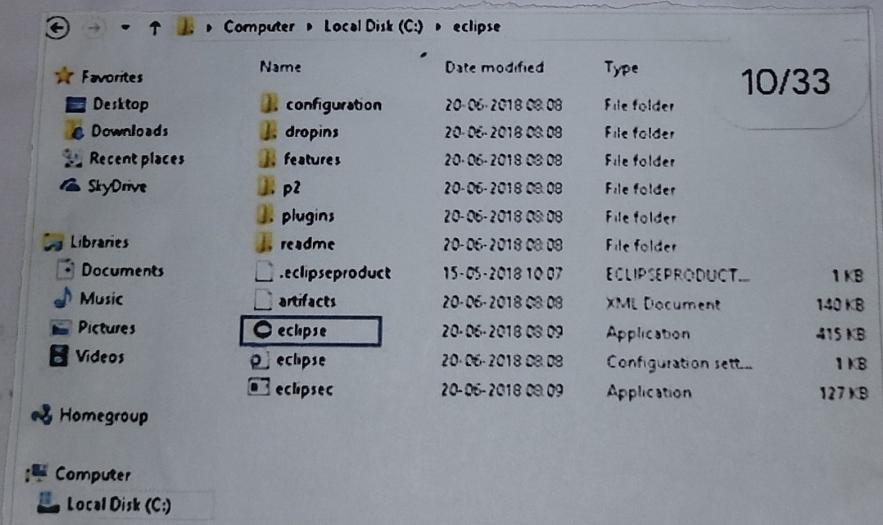
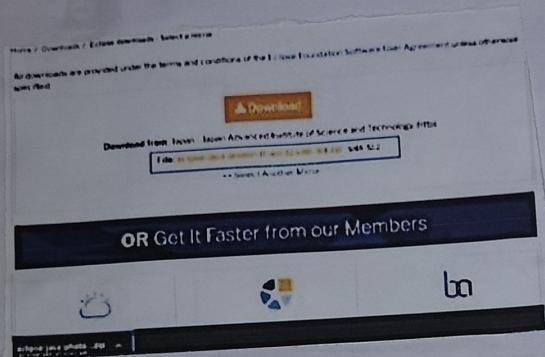
Go to the <http://www.eclipse.org/download/> and you will see something like below



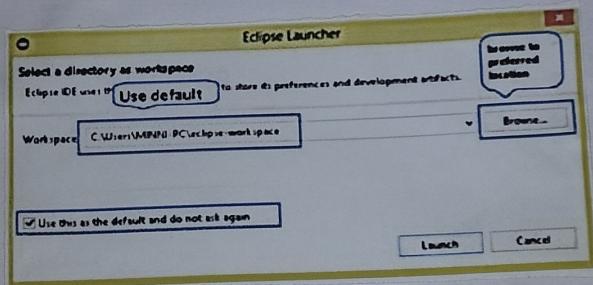
On clicking download package the following page will be displayed with multiple Eclipse version.



Select Eclipse IDE for Java developer and
Select the download link from one of the
below depending on the operating system of
your machine.



Once you select the OS type download Link you will be redirected to the following page.

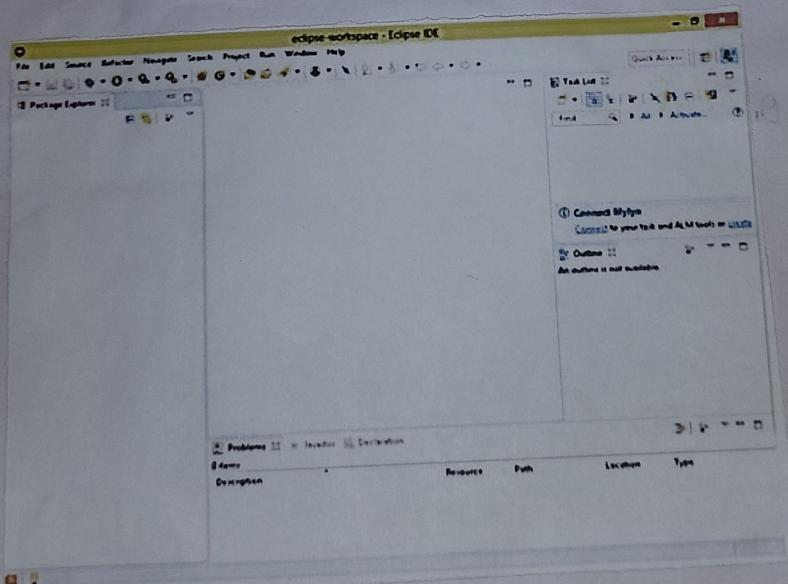
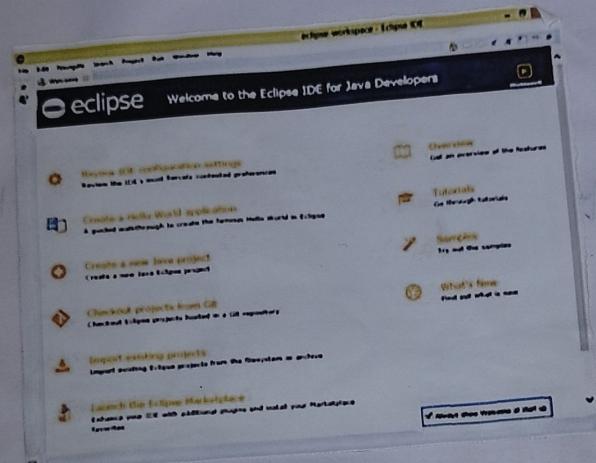


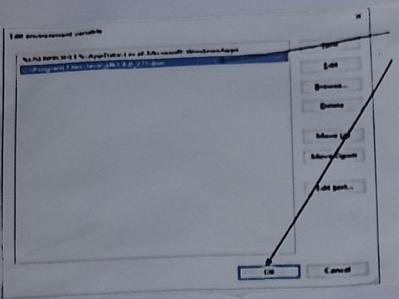
you should see the below folder structure
once you are done with the above steps

Setting up your Eclipse workspace

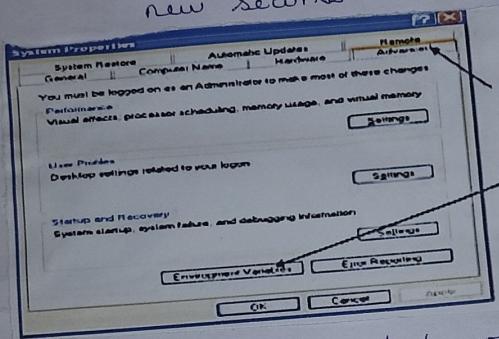
Once you open Eclipse you will see the
below image

After closing the welcome page you will see
the following view

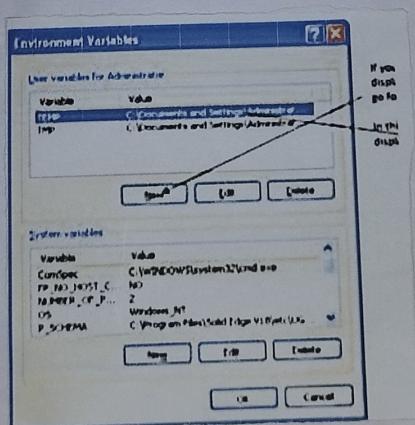


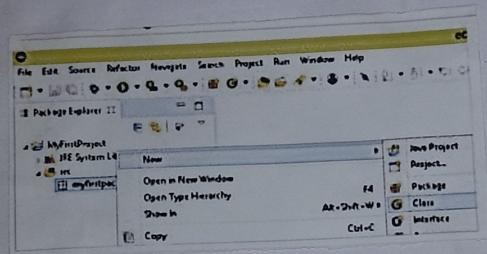
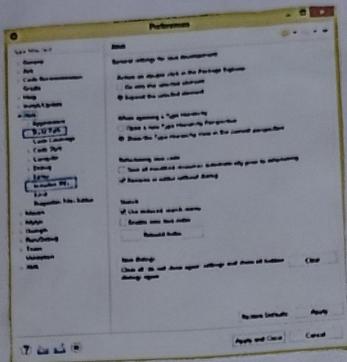


The following window will show up after a few seconds.



Once the workbench is launched you will see the following default view



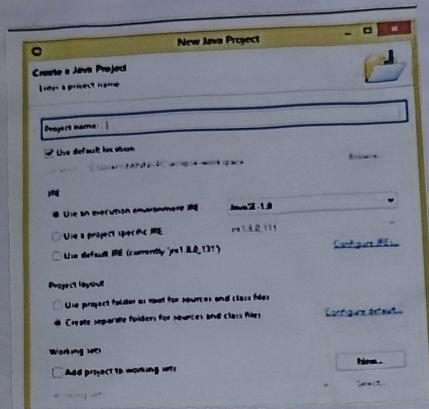


Creating and Running your first Java project in
Eclipse

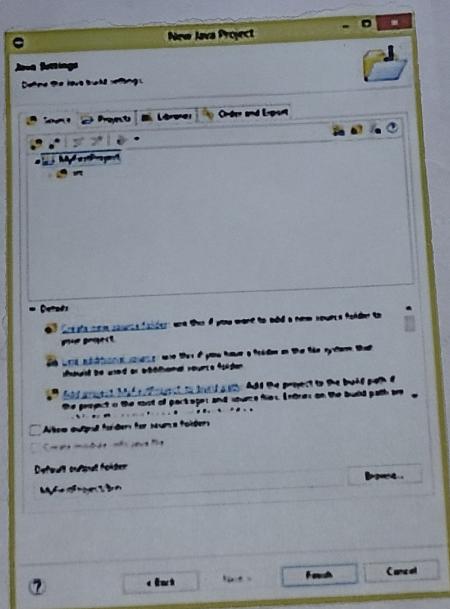
iii) To Create a simple first java project follow the

Step 1 →

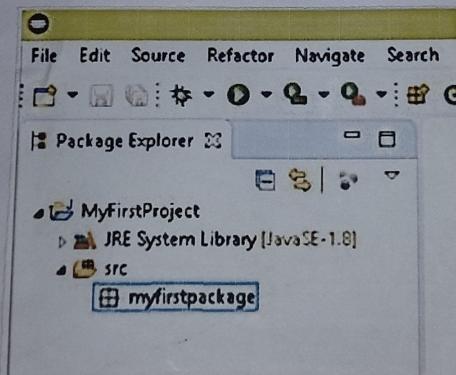
click on file → New → Java project.



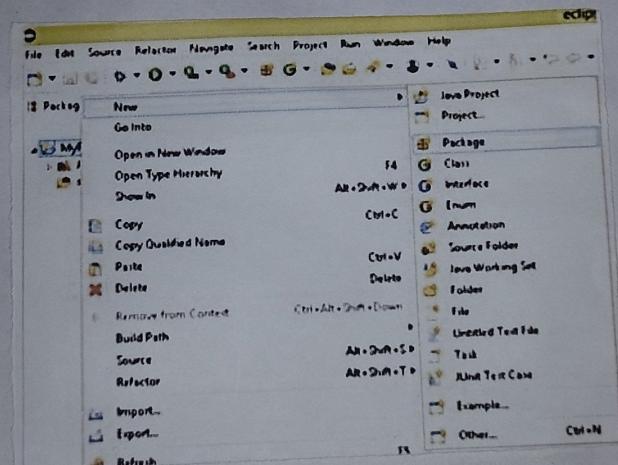
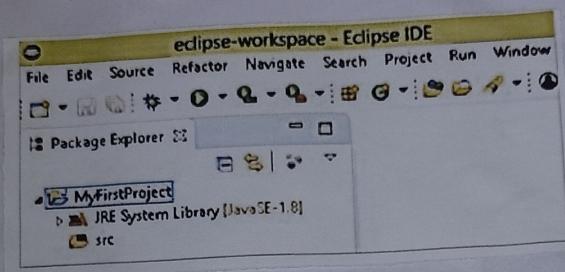
Step 2 → The following window will open



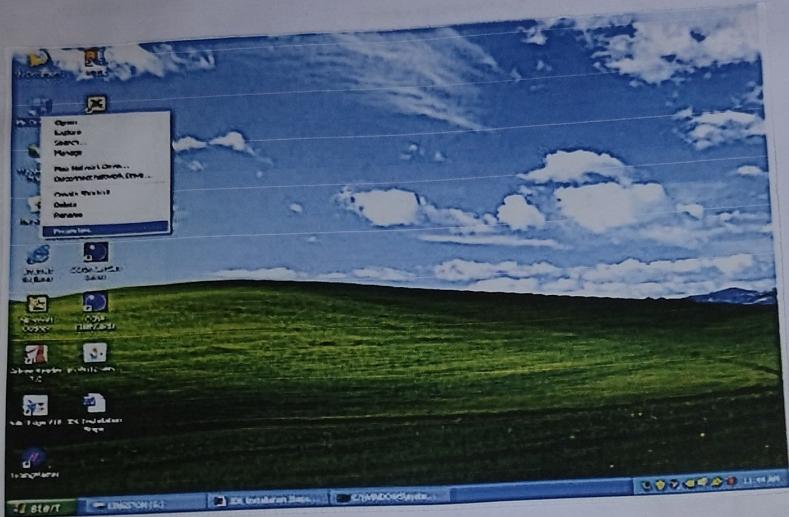
Step 3 - The following screen opens up



you will see the following structure created
in your project explorer



To create a package right click on your
project name as shown below
click on the package



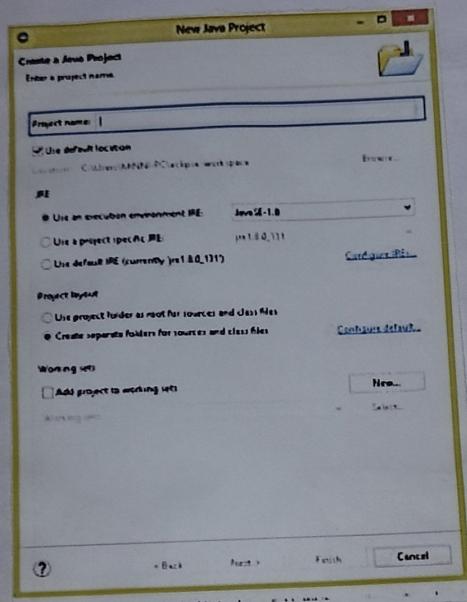
```
Microsoft Windows [Version 10.0.19044.1645]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Dell>javac -version
javac 1.8.0_271

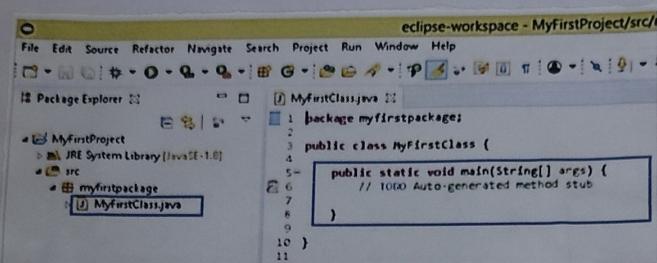
C:\Users\Dell>java -version
java version "1.8.0_271"
Java(TM) SE Runtime Environment (build 1.8.0_271-b09)
Java HotSpot(TM) 64-Bit Server VM (build 25.271-b09, mixed mode)

C:\Users\Dell>
```

check your project structure



click on the class:



eclipse-workspace - MyFirstProject/src/

File Edit Source Refactor Navigate Search Project Run Window Help

Package Explorer

MyFirstProject JRE System Library [JvsSE-1.8]

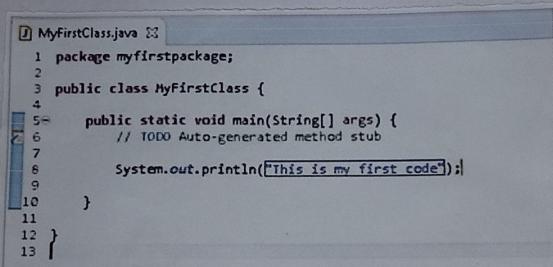
src

myfirstpackage

MyFirstClass.java

```
MyFirstClass.java
1 package myfirstpackage;
2
3 public class MyFirstClass {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         System.out.println("This is my first code");
9
10    }
11
12 }
13
```

click on finish and now your project will
Look as show below



MyFirstClass.java

```
MyFirstClass.java
1 package myfirstpackage;
2
3 public class MyFirstClass {
4
5     public static void main(String[] args) {
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8         System.out.println("This is my first code");
9
10    }
11
12 }
13
```

5) Learn and Understand Java token with
suitable Example.

→ Identifier -

- * Identifier are used defined token used to name a variable function class object package interface and array
- * The Identifier name must be different from reserved keyword.

→ Literal (constants)

- * Literal in Java are sequence of char i.e, continue of letter, digit any other character
- * Literal is a notation the represent a fixed value in code.

→ Operators

- * An operator is a special symbol that takes one or more argument and perform operation to produce result

→ Comment -

- * Allow us to specify info alone the program inside our Java code
- * Java compiler recognize these comment token but excludes it from further processing.
- * The Java compiler treat comment

→ Separators -

- * Square Brackets []
- * parent braces { }
- * Comma (,)
- * Semicolon (;)
- * period (:)

a) Learn and understand to design and implement simple program.

b) Hello world

```
package week;
public class HelloWorld {
    public static void main (String [] args) {
        System.out.println ("Hello world... \n"
                            "welcome to programming with "
                            "Java");
        System.out.println ("on");
    }
}
```

Output -

Hello world...

welcome to programming with

the help of Java. programming with

Java is fun and easy with

→ odd or Even.

```
package week1;
public class Even-or-odd {
    public static void main (String [] args) {
        System.out.println ("The program check
        System.out.println ("the no is odd or even");
        int num = 68;
        if (num % 2 == 0)
            System.out.println ("the given numb
            -er "+ num + " is even");
        else
            System.out.println ("the given
            number "+ num + " is odd");
    }
}
```

Output

This program checks the no is odd or even.
The given number 68 is even

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Main.java

Run

Output

Clear

```
1 // Online Java Compiler
2 // Use this editor to write, compile and run your Java code online
3
4 class Hello_World {
5     public static void main(String[] args) {
6         System.out.println("Hello, World!");
7     }
8 }
```

Output:

```
java -cp /tmp/2c16UFj9ti HelloWorld
Hello, World!
```

Programiz Online Java Compiler

Icons for other languages: C, C++, C#, JS, GO, PHP, SWIFT, R

Taskbar icons: Search, File Explorer, Task View, Edge, Firefox, File Manager, Microsoft Word, Microsoft Excel, Microsoft Powerpoint, Microsoft OneDrive, Microsoft Teams, Microsoft Edge, Microsoft Edge Dev, Microsoft Edge Beta, Microsoft Edge Canary, Microsoft Edge Insider, Microsoft Edge Stable, Microsoft Edge Dev Stable, Microsoft Edge Beta Stable, Microsoft Edge Canary Stable, Microsoft Edge Insider Stable, Microsoft Edge Dev Canary, Microsoft Edge Beta Canary, Microsoft Edge Canary Beta, Microsoft Edge Insider Beta, Microsoft Edge Canary Insider, Microsoft Edge Insider Canary, Microsoft Edge Insider Beta Canary, Microsoft Edge Insider Canary Beta, Microsoft Edge Insider Canary Insider, Microsoft Edge Insider Beta Canary Insider, Microsoft Edge Insider Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary, Microsoft Edge Insider Canary Insider Beta Canary Insider, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta Canary, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary Insider Beta, Microsoft Edge Insider Canary Insider Beta Canary, Microsoft Edge Insider Canary Insider Beta, Microsoft Edge Insider Canary, Microsoft Edge Insider.

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Main.java

1 public class Even_or_Odd
2 {
3 public static void main(String[] args)
4 {
5 System.out.println("This program checks the no is odd or even");
6 int num=68;
7 if(num%2==0)
8 System.out.println("The given number "+num+" is even");
9 else
10 System.out.println("The given number "+num+" is odd");
11 }
12
13 }

Run

Output

Clear

java -cp /tmp/2c16UFj9ti Even_or_Odd
This program checks the no is odd or even
The given number 68 is even

Search

18:03 ENG IN 26-02-2024 PRE