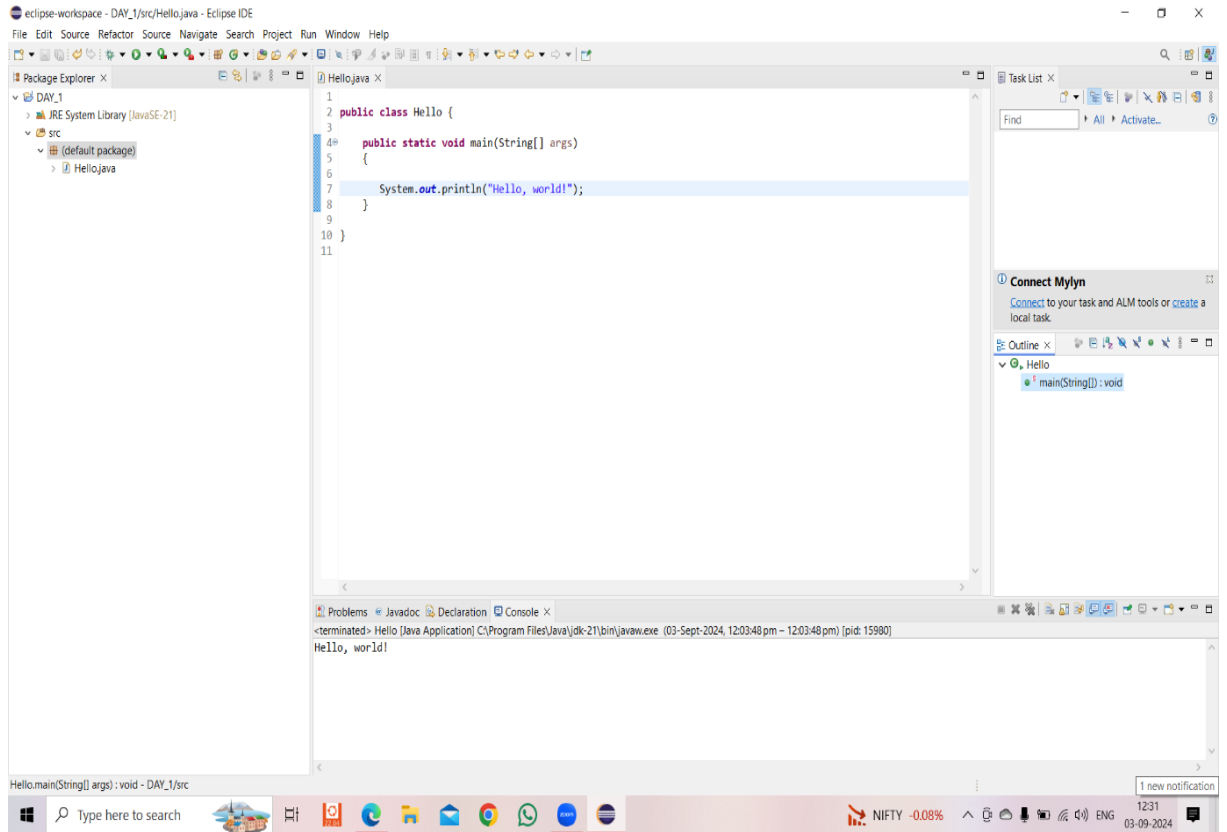


ASSIGNMENT 1

1. **Hello World Program:** Write a Java program that prints "Hello World!!" to the console.



2. Compile with Verbose Option: Compile your Java file using the with javac . Check the output.

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.4780]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Admin\eclipse-workspace\DAY_1\src>javac Hello.java

C:\Users\Admin\eclipse-workspace\DAY_1\src>javac -verbose Hello.java
[parsing started SimpleFileObject[C:\Users\Admin\eclipse-workspace\DAY_1\src\Hello.java]]
[parsing completed 37ms]
[loading /modules/java.base/module-info.class]
[loading /modules/jdk.charsets/module-info.class]
[loading /modules/jdk.sctp/module-info.class]
[loading /modules/jdk.management/module-info.class]
[loading /modules/jdk.editpad/module-info.class]
[loading /modules/jdk.net/module-info.class]
[loading /modules/java.datatransfer/module-info.class]
[loading /modules/jdk.jconsole/module-info.class]
[loading /modules/jdk.localedata/module-info.class]
[loading /modules/jdk.zipfs/module-info.class]
[loading /modules/java.desktop/module-info.class]
[loading /modules/jdk.crypto.mscapi/module-info.class]
[loading /modules/jdk.naming.dns/module-info.class]
[loading /modules/java.se/module-info.class]
[loading /modules/java.security.sasl/module-info.class]
[loading /modules/jdk.xml.dom/module-info.class]
[loading /modules/java.instrument/module-info.class]
[loading /modules/jdk.jdi/module-info.class]
[loading /modules/jdk.jcmd/module-info.class]
[loading /modules/jdk.security.jgss/module-info.class]
[loading /modules/jdk.jstatd/module-info.class]
[loading /modules/java.scripting/module-info.class]
[loading /modules/java.net.http/module-info.class]
[loading /modules/jdk.internal.vm.compiler/module-info.class]
[loading /modules/jdk.crypto.cryptoki/module-info.class]
[loading /modules/jdk.management.agent/module-info.class]
[loading /modules/jdk.internal.jvmsat/module-info.class]
[loading /modules/jdk.jsobject/module-info.class]
[loading /modules/java.xml/module-info.class]
[loading /modules/jdk.incubator.vector/module-info.class]
[loading /modules/jdk.attach/module-info.class]
[loading /modules/java.sql/module-info.class]
[loading /modules/jdk.internal.le/module-info.class]
[loading /modules/java.management/module-info.class]
[loading /modules/java.smartcardio/module-info.class]
[loading /modules/jdk.dynalink/module-info.class]
[loading /modules/jdk.random/module-info.class]
[loading /modules/jdk.jdwp.agent/module-info.class]
[loading /modules/jdk.jdeps/module-info.class]
[loading /modules/jdk.unsupported.desktop/module-info.class]
[loading /modules/jdk.security.auth/module-info.class]
[loading /modules/jdk.hotspot.agent/module-info.class]
```

C:\Windows\System32\cmd.exe

```
[loading /modules/jdk.jartool/module-info.class]
[loading /modules/java.transaction.xa/module-info.class]
[loading /modules/java.security.jgss/module-info.class]
[loading /modules/jdk.unsupported/module-info.class]
[loading /modules/java.compiler/module-info.class]
[loading /modules/jdk.crypto.ec/module-info.class]
[loading /modules/jdk.jshell/module-info.class]
[loading /modules/java.naming/module-info.class]
[loading /modules/jdk.internal.opt/module-info.class]
[loading /modules/java.sql.rowset/module-info.class]
[loading /modules/jdk.management.jfr/module-info.class]
[loading /modules/java.logging/module-info.class]
[loading /modules/jdk.internal.vm.ci/module-info.class]
[loading /modules/jdk.naming.rmi/module-info.class]
[loading /modules/jdk.internal.vm.compiler.management/module-info.class]
[loading /modules/jdk.nio.mapmode/module-info.class]
[loading /modules/java.xml.crypto/module-info.class]
[loading /modules/jdk.httpserver/module-info.class]
[loading /modules/jdk.accessibility/module-info.class]
[loading /modules/java.prefs/module-info.class]
[loading /modules/jdk.jfr/module-info.class]
[search path for source files: .]
[search path for class files: C:\Program Files\Java\jdk-21\lib\modules,.]
[loading /modules/java.base/java/lang/Object.class]
[loading /modules/java.base/java/lang/String.class]
[loading /modules/java.base/java/lang/Deprecated.class]
[loading /modules/java.base/java/lang/annotation/Retention.class]
[loading /modules/java.base/java/lang/annotation/RetentionPolicy.class]
[loading /modules/java.base/java/lang/annotation/Target.class]
[loading /modules/java.base/java/lang/annotation/ElementType.class]
[checking Hello]
[loading /modules/java.base/java/io/Serializable.class]
[loading /modules/java.base/java/lang/AutoCloseable.class]
[loading /modules/java.base/java/lang/System.class]
[loading /modules/java.base/java/io/PrintStream.class]
[loading /modules/java.base/java/lang/Appendable.class]
[loading /modules/java.base/java/io/Closeable.class]
[loading /modules/java.base/java/io/FilterOutputStream.class]
[loading /modules/java.base/java/io/OutputStream.class]
[loading /modules/java.base/java/io/Flushable.class]
[loading /modules/java.base/java/lang/Comparable.class]
[loading /modules/java.base/java/lang/CharSequence.class]
[loading /modules/java.base/java/lang/constant/Constable.class]
[loading /modules/java.base/java/lang/constant/ConstantDesc.class]
[wrote Hello.class]
[total 669ms]
```

C:\Users\Admin\eclipse-workspace\DAY_1\src>_



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3. Inspect Bytecode: Use the javap-verbose option tool to examine the bytecode of the compiled .class file. Observe the output.

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.4780]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Admin\eclipse-workspace\DAY_1\src>javap -c Hello.class
Compiled from "Hello.java"
public class Hello {
    public Hello();
        Code:
            0: aload_0
            1: invokespecial #1                  // Method java/lang/Object."<init>":()V
            4: return

    public static void main(java.lang.String[]);
        Code:
            0: getstatic     #7                  // Field java/lang/System.out:Ljava/io/PrintStream;
            3: ldc           #13                 // String Hello, world!
            5: invokevirtual #15                 // Method java/io/PrintStream.println:(Ljava/lang/String;)V
            8: return
}
```

C:\Users\Admin\eclipse-workspace\DAY_1\src>_