**Assignment 1**

6. Coding Assignments

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 -verbose option with javac. Check the output.

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

PS C:\Users\shrey> cd .java

PS C:\Users\shrey\.java> javac l1.java

PS C:\Users\shrey\.java> javac -verbose l1.java

[parsing started SimpleFileObject[C:\Users\shrey\.java\l1.java]]

[parsing completed 26ms]

[loading /modules/java.base/module-info.class]

[loading /modules/jdk.internal.vm.ci/module-info.class]

[loading /modules/jdk.internal.jvmstat/module-info.class]

[loading /modules/java.desktop/module-info.class]

[loading /modules/jdk.accessibility/module-info.class]

[loading /modules/jdk.dynalink/module-info.class]

[loading /modules/jdk.security.jgss/module-info.class]

[loading /modules/jdk.httpserver/module-info.class]

[loading /modules/jdk.security.auth/module-info.class]

[loading /modules/java.security.sasl/module-info.class]

[loading /modules/jdk.net/module-info.class]

[loading /modules/jdk.internal.opt/module-info.class]

[loading /modules/java.compiler/module-info.class]

[loading /modules/java.management/module-info.class]

[loading /modules/jdk.graal.compiler/module-info.class]

[loading /modules/java.sql/module-info.class]

[loading /modules/jdk.management/module-info.class]

[loading /modules/jdk.unsupported.desktop/module-info.class]

[loading /modules/jdk.jdwp.agent/module-info.class]

[loading /modules/java.scripting/module-info.class]

[loading /modules/jdk.internal.le/module-info.class]

[loading /modules/jdk.crypto.cryptoki/module-info.class]

[loading /modules/java.xml/module-info.class]

[loading /modules/java.xml.crypto/module-info.class]

[loading /modules/jdk.jshell/module-info.class]

[loading /modules/jdk.compiler/module-info.class]

[loading /modules/java.naming/module-info.class]

[loading /modules/java.instrument/module-info.class]

[loading /modules/jdk.charsets/module-info.class]

[loading /modules/java.management.rmi/module-info.class]

[loading /modules/java.rmi/module-info.class]

[loading /modules/jdk.internal.ed/module-info.class]

[loading /modules/java.sql.rowset/module-info.class]

[loading /modules/jdk.jpackage/module-info.class]

[loading /modules/jdk.jdeps/module-info.class]

[loading /modules/jdk.localedata/module-info.class]

[loading /modules/java.security.jgss/module-info.class]

[loading /modules/java.net.http/module-info.class]

[loading /modules/jdk.naming.dns/module-info.class]

[loading /modules/jdk.jdi/module-info.class]

[loading /modules/jdk.management.agent/module-info.class]

[loading /modules/jdk.attach/module-info.class]

[loading /modules/jdk.hotspot.agent/module-info.class]

[loading /modules/jdk.naming.rmi/module-info.class]

[loading /modules/java.se/module-info.class]

[loading /modules/jdk.incubator.vector/module-info.class]

[loading /modules/java.transaction.xa/module-info.class]

[loading /modules/jdk.jstatd/module-info.class]

[loading /modules/jdk.nio.mapmode/module-info.class]

[loading /modules/jdk.zipfs/module-info.class]

[loading /modules/java.logging/module-info.class]

[loading /modules/jdk.jconsole/module-info.class]

[loading /modules/jdk.javadoc/module-info.class]

[loading /modules/java.prefs/module-info.class]

[loading /modules/java.datatransfer/module-info.class]

[loading /modules/jdk.crypto.mscapi/module-info.class]

[loading /modules/jdk.sctp/module-info.class]

[loading /modules/jdk.jfr/module-info.class]

[loading /modules/jdk.jlink/module-info.class]

[loading /modules/jdk.management.jfr/module-info.class]

[loading /modules/jdk.jsobject/module-info.class]

[loading /modules/jdk.unsupported/module-info.class]

[loading /modules/jdk.crypto.ec/module-info.class]

[loading /modules/jdk.jartool/module-info.class]

[loading /modules/jdk.random/module-info.class]

[loading /modules/jdk.jcmd/module-info.class]

[loading /modules/jdk.xml.dom/module-info.class]

[loading /modules/jdk.graal.compiler.management/module-info.class]

[loading /modules/java.smartcardio/module-info.class]

[loading /modules/jdk.editpad/module-info.class]

[search path for source files: .]

[search path for class files: C:\Program Files\Java\jdk-22\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 l1]

[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 l1.class]

[total 280ms]

PS C:\Users\shrey\.java> java l1

hello

PS C:\Users\shrey\.java> javap -c l1

Compiled from "l1.java"

public class l1 {

public l1();

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

5: invokevirtual #15 // Method java/io/PrintStream.println:(Ljava/lang/String;)V

8: return

}