

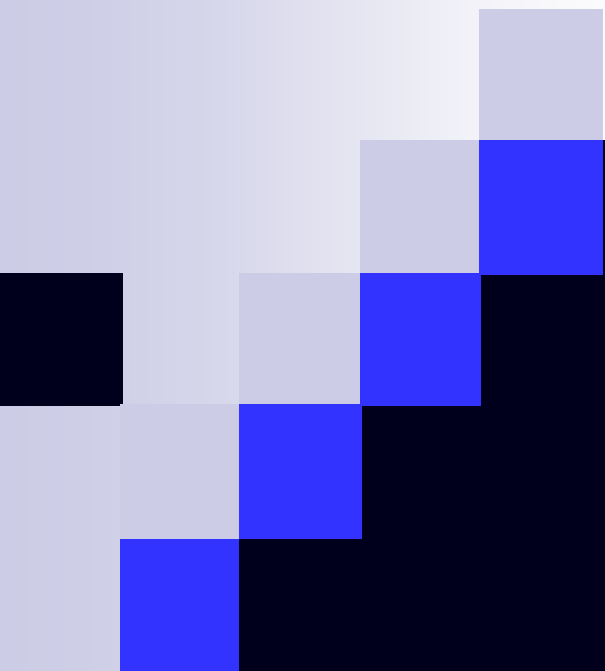
CN4001/ CD4001

Software Development

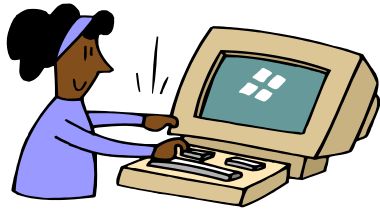
Topic 2: Java and NetBeans

Part 2





Writing, Compiling and Running Programs



Programmer



```
if (words > MAX)
{
    System.out.print();
}
```

program (source) code



COMPILER

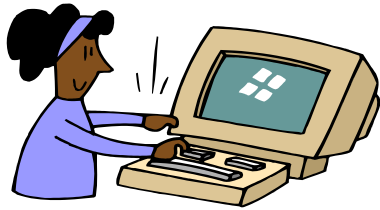


machine code

```
00111110
11010010
11110010
01010110
```



Program user



Programmer



```
if (words > MAX)
{
    System.out.print();
}
```

program (source) code



PC COMPILER

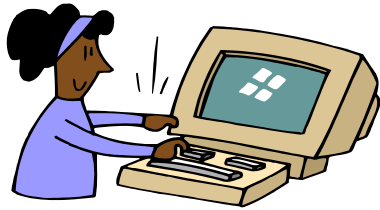


machine code

```
00111110
11010010
11110010
01010110
```



PC user



Programmer



```
if (words > MAX)
{
    System.out.print();
}
```

program (source) code



MAC COMPILER



machine code

```
11001110
00110000
00100101
11100100
```



MAC user

Java Programming



Java Programmer

Source code

```
if (words > MAX)
{System.out.print();
}
```

JAVA COMPILER

Java byte code

```
11110011
00001101
01010111
10000101
```

Source code

JVM

```
00111110
11010010
11110010
01010110
```



```
10011001
00011111
01010111
11100000
```



```
01100011
11111000
10101100
10001001
```





Java Programmer

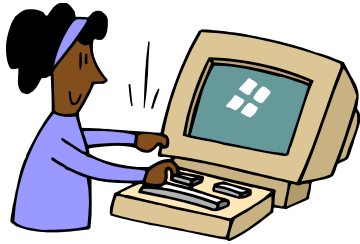
```
public class Game
{
    public static void main()
    {
        System.out.print("START");
    }
}
```

Source code (**Game.java**)

JAVA COMPILER

```
11110011
00001101
01010111
```

Java byte code (**Game.class**)

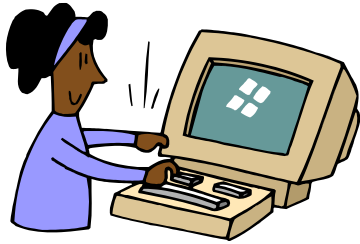


Java Programmer

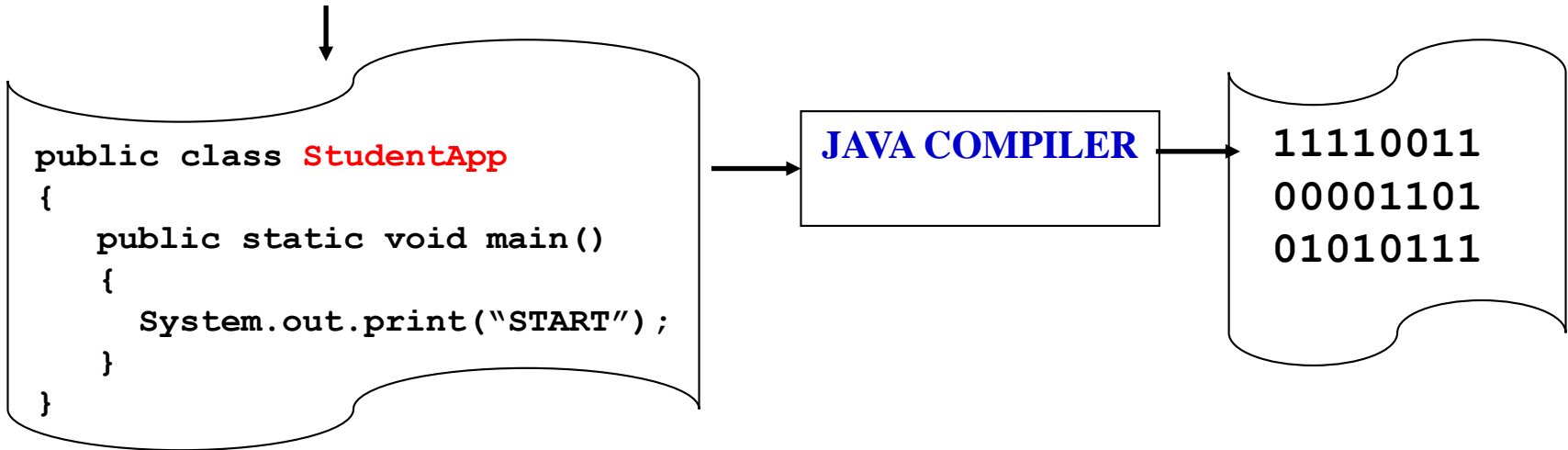
```
public class StudentApp
{
    public static void main()
    {
        System.out.print("START");
    }
}
```

JAVA COMPILER

```
11110011
00001101
01010111
```



Java Programmer



Source code (**StudentApp.java**)

Java byte code (**StudentApp.class**)



Compiling and Running from the Command Line

Compiling with **javac**

```
public class StudentApp
{
    public static void main()
    {
        System.out.print("START");
    }
}
```

StudentApp.java



javac StudentApp.java



```
11110011
00001101
01010111
.....
```

StudentApp.class

Running with **java**

```
11110011
00001101
01010111
.....
```

StudentApp.class



java StudentApp



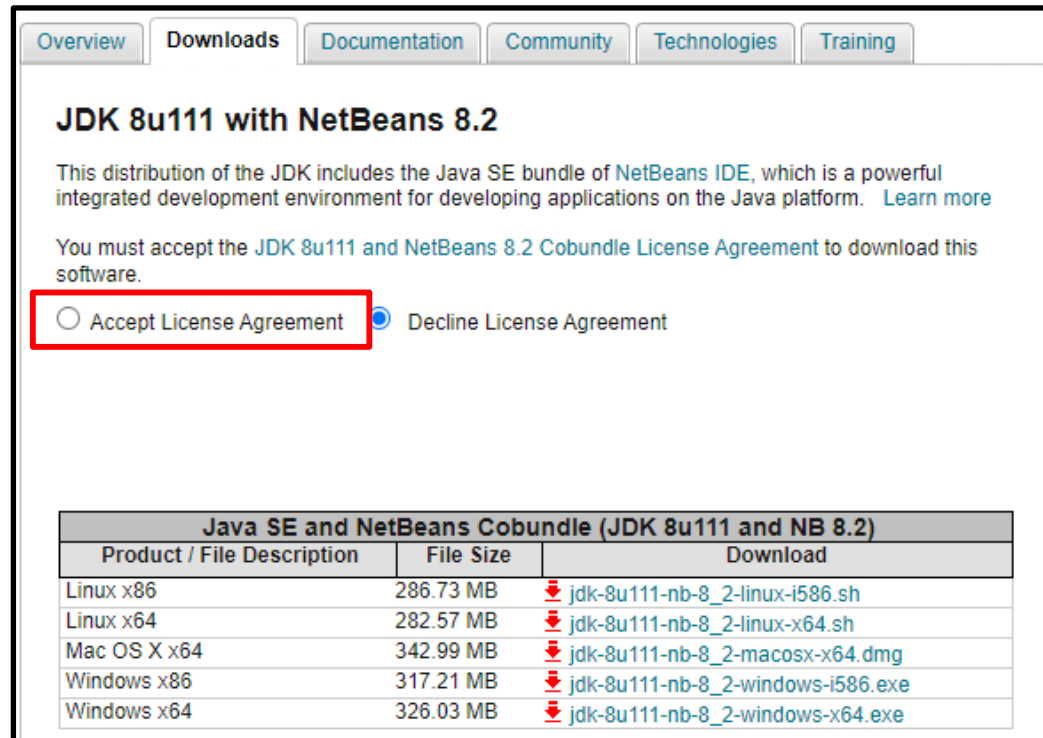


Integrated development environment (IDE)

Some Popular Java IDEs



Java + NetBeans Download

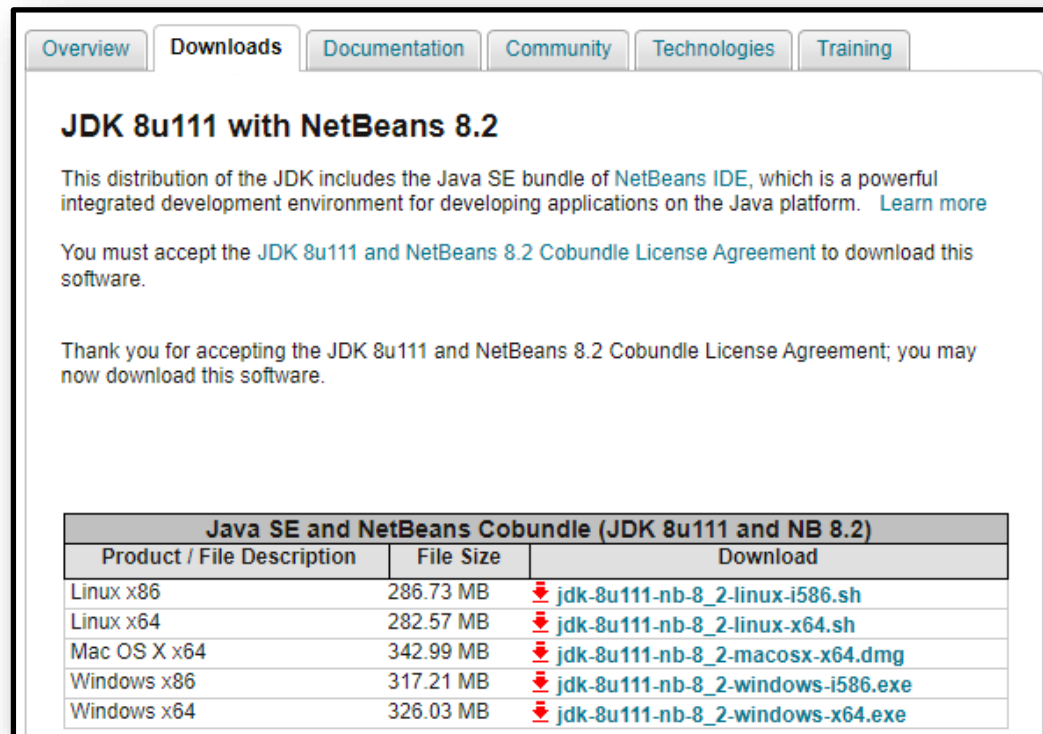


The screenshot shows the Oracle website for downloading JDK 8u111 with NetBeans 8.2. The 'Downloads' tab is selected. The page title is 'JDK 8u111 with NetBeans 8.2'. Below the title, there is a paragraph explaining that this distribution includes the Java SE bundle of NetBeans IDE. A link 'Learn more' is provided. Below this, a paragraph states that the user must accept the 'JDK 8u111 and NetBeans 8.2 Cobundle License Agreement' to download the software. There are two radio buttons: 'Accept License Agreement' (which is selected and highlighted with a red box) and 'Decline License Agreement'. Below the radio buttons is a table titled 'Java SE and NetBeans Cobundle (JDK 8u111 and NB 8.2)'.

Product / File Description	File Size	Download
Linux x86	286.73 MB	jdk-8u111-nb-8_2-linux-i586.sh
Linux x64	282.57 MB	jdk-8u111-nb-8_2-linux-x64.sh
Mac OS X x64	342.99 MB	jdk-8u111-nb-8_2-macosx-x64.dmg
Windows x86	317.21 MB	jdk-8u111-nb-8_2-windows-i586.exe
Windows x64	326.03 MB	jdk-8u111-nb-8_2-windows-x64.exe

<https://www.oracle.com/technetwork/java/javase/download/s/jdk-netbeans-jsp-3413139-esa.html>

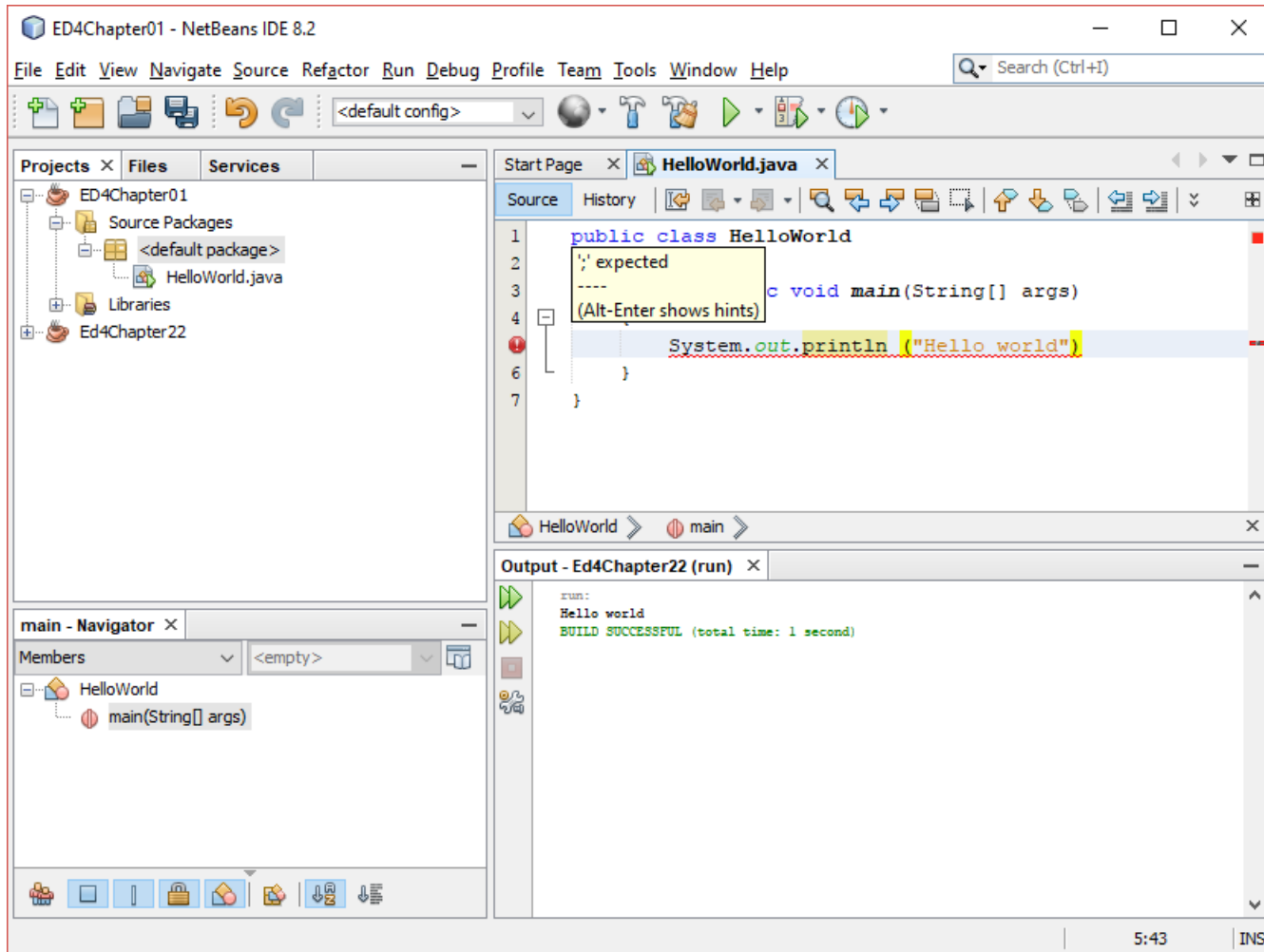
Java + NetBeans Download

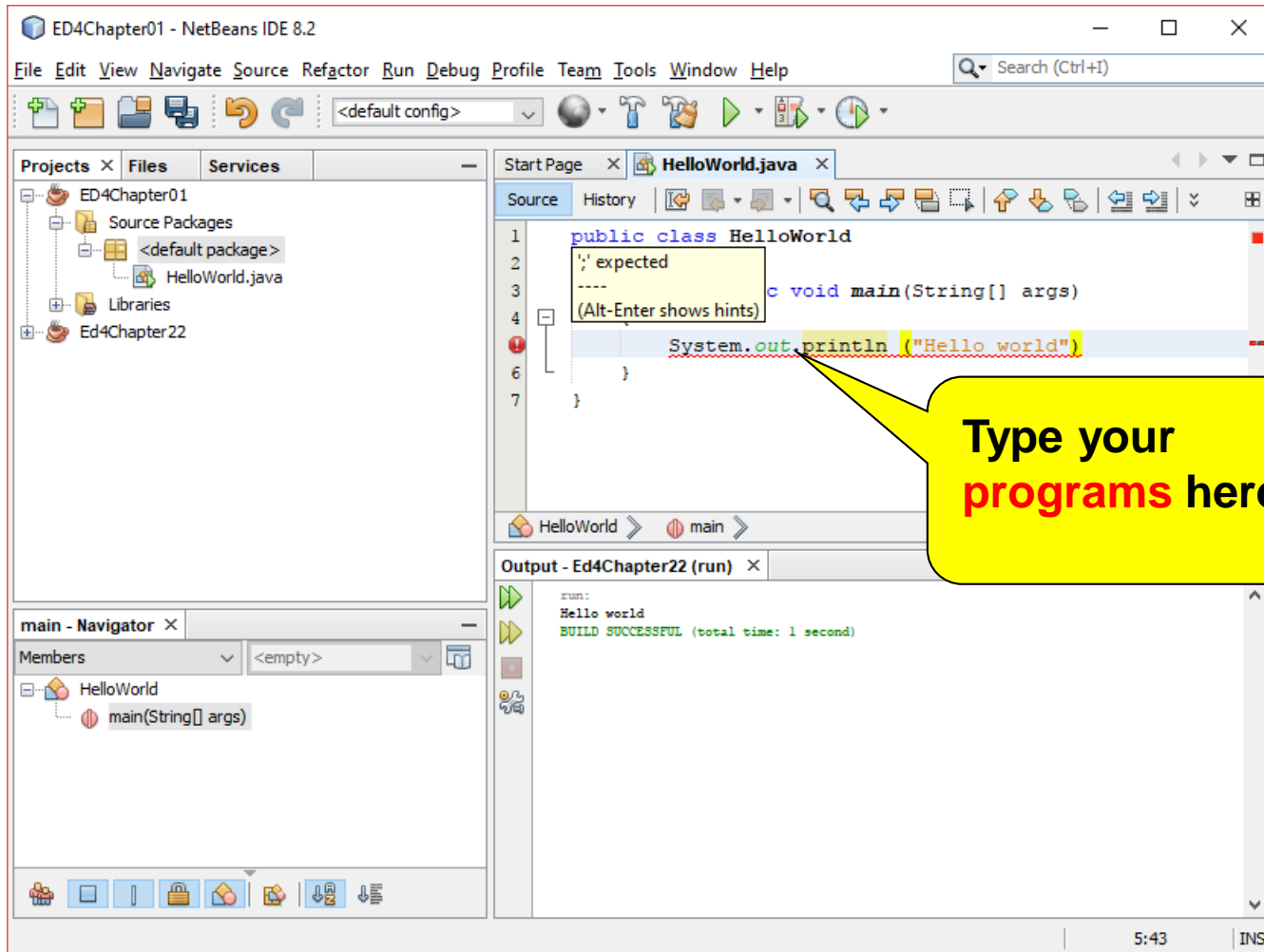


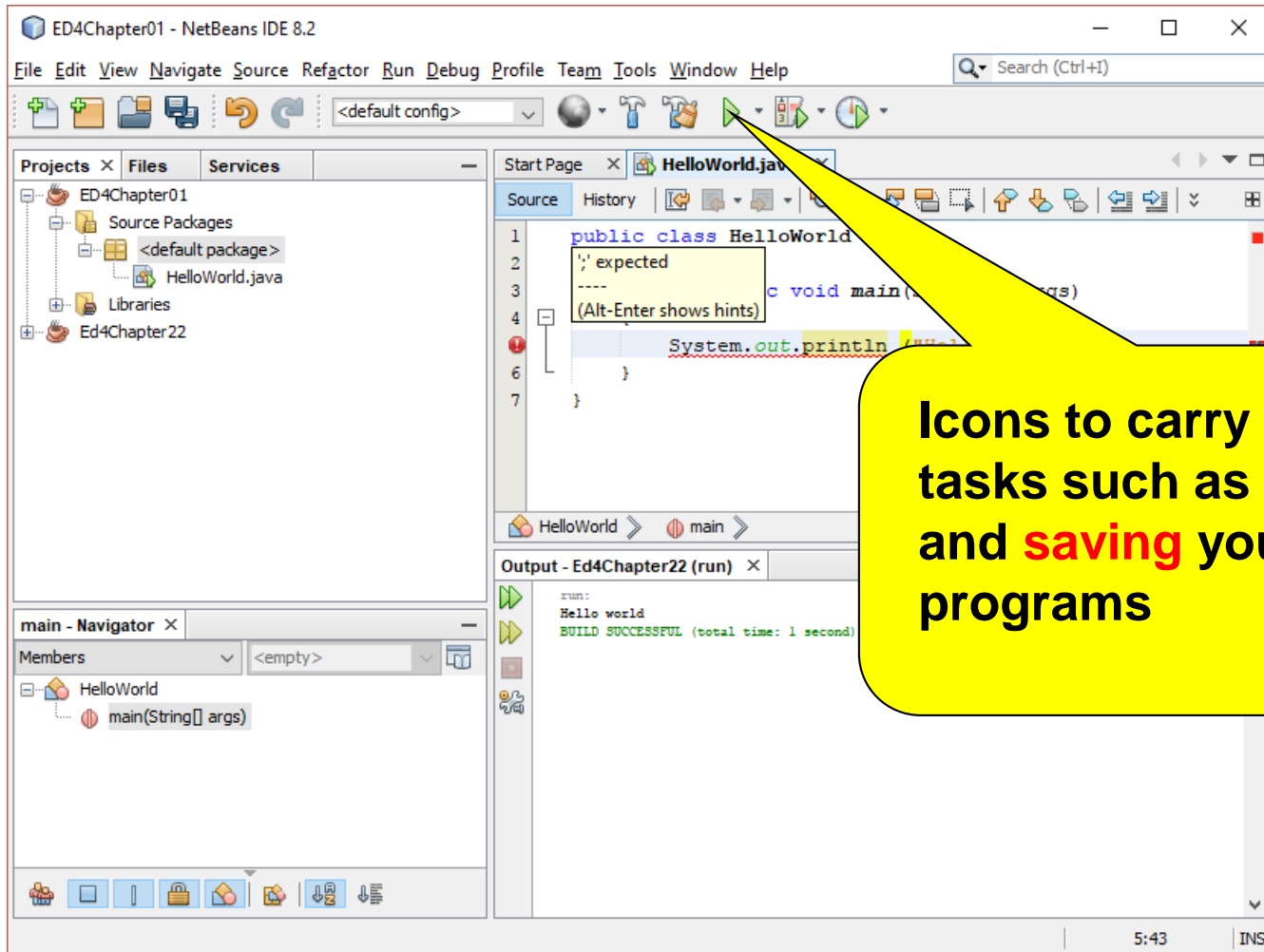
The screenshot shows the Oracle website's download page for the JDK 8u111 with NetBeans 8.2. It includes navigation tabs for Overview, Downloads, Documentation, Community, Technologies, and Training. The main content area has a heading 'JDK 8u111 with NetBeans 8.2' followed by a description of the distribution and a link to the license agreement. Below this is a table listing the download links for various operating systems and architectures.

Java SE and NetBeans Cobundle (JDK 8u111 and NB 8.2)		
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<https://www.oracle.com/technetwork/java/javase/download/s/jdk-netbeans-jsp-3413139-esa.html>







ED4Chapter01 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

<default config>

Projects Files Services

- ED4Chapter01
 - Source Packages
 - <default package>
 - HelloWorld.java
 - Libraries
 - Ed4Chapter22

Start Page x HelloWorld.java

Source History

```
1 public class HelloWorld
2 {
3     // expected
4     // -----
5     // (Alt-Enter shows hints)
6     void main(String[] args)
7     {
8         System.out.println("Hello world");
9     }
10 }
```

main - Navigator

Members

- main(String[] args)

Output - Ed4Chapter22 (run)

run:
Hello world
BUILD SUCCESSFUL (total time: 1 second)

5:43 INS

Compiler errors reported in-line as you type

