Object Oriented Programming – SCJ2153

Creating Java Program

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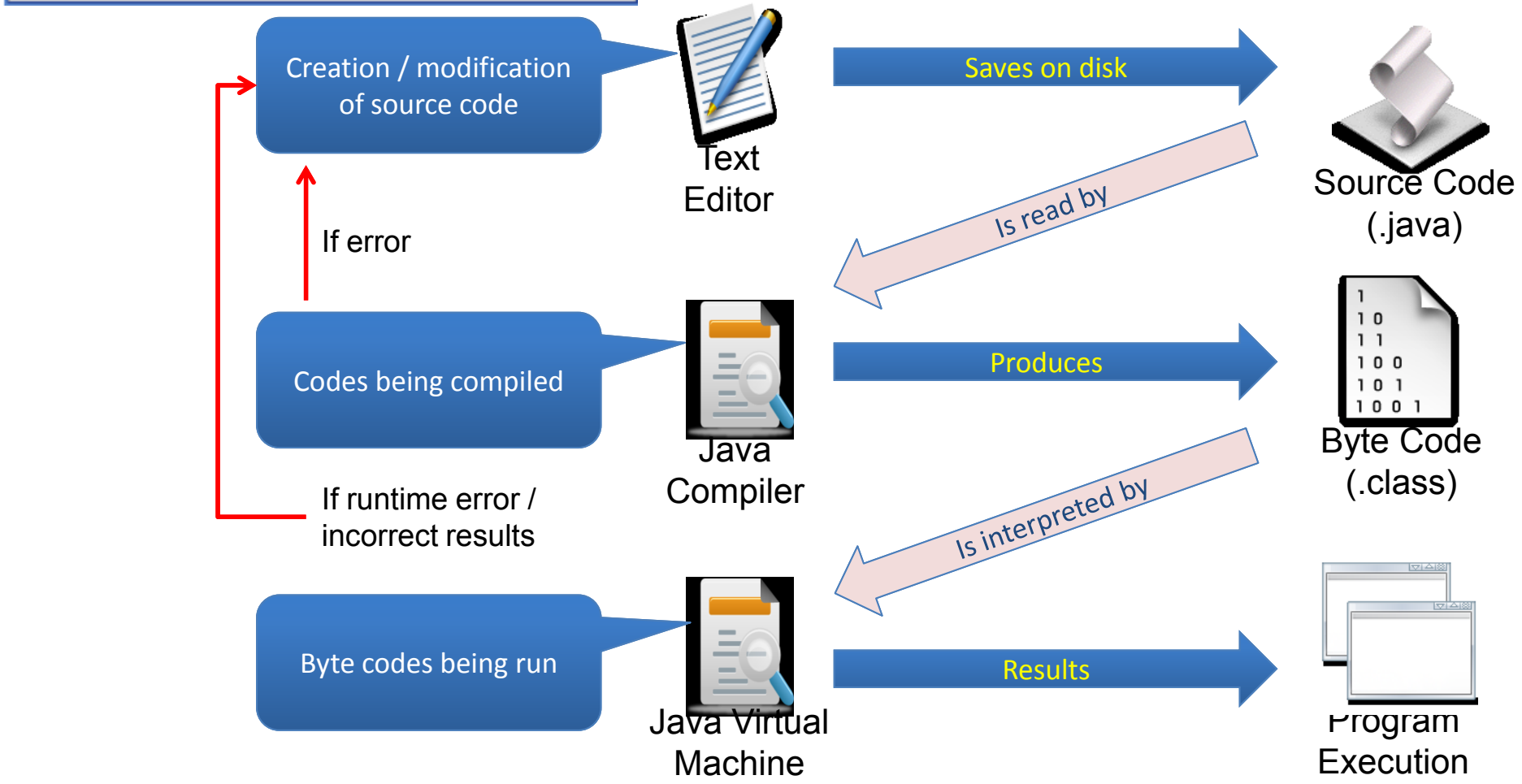
Steps to Create Java Applications

HelloApp - Notepad

File Edit Format View Help

```
//Program 1.1 This is my first Java program
public class HelloApp
{
  public static void main (String[] args)
  {
   System.out.println("Hello there.");
   System.out.println("Welcome to Java.");
  }
}
```



Create a Source File

1. Create a new directory in drive C to place all your Java source files.
2. Open a text editor i.e. Notepad.
3. Type the Java code.
4. Save the code to a file.
   - The name of the file must be the same as the class name and with the extension name .java.

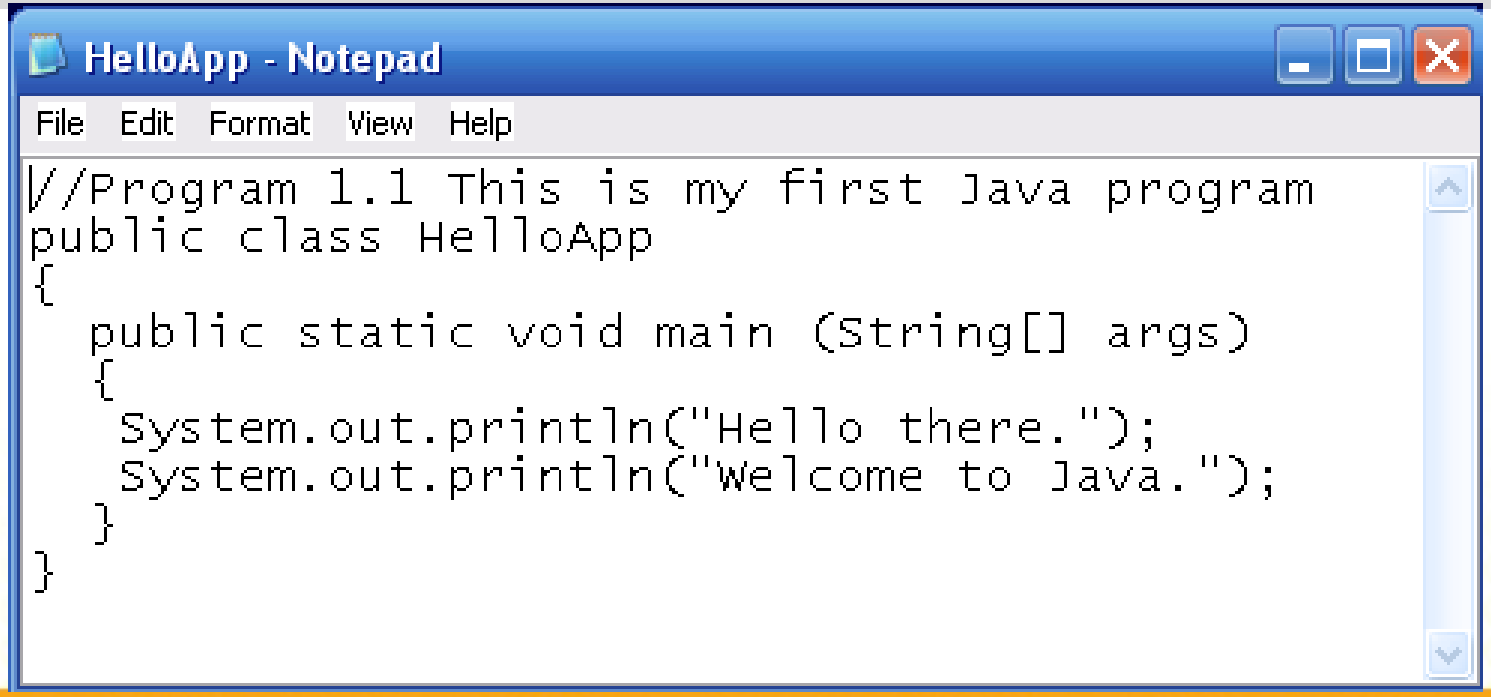
Demonstrate how to create the directory from the command prompt

1. Start → Accessories → Command prompt
2. `cd \`
3. `mkdir JavaPrograms`

Demonstrate how to open a text editor i.e. Notepad

- Start → Accessories → Notepad

Demonstrate how to type the Java code in Notepad



Demonstrate how to save the Java application file

1. Save the file in the directory named `c:\JavaPrograms`.
2. Include the double quote "`HelloApp.java`" to avoid the `.txt` extension.

Compile the Source File

1. The Java source file can be compiled in DOS environment.
2. Make sure that the Windows operating systems can find the source files, the Java compiler, and necessary classes.
   - One option is to create a batch file using Notepad that will
     - Set the path that contains the compiler.
     - Set the class path that determine the locations of the Java classes or the byte codes.
     - Change the current directory to the one that contains the Java source file.
3. Compile the Java source file at the DOS prompt using the `javac` command.
4. If there are syntax errors, the compiler will display the error messages and need to modify the program.
5. If no error, a Java byte code file will be produced (i.e. class).

Demonstrate how to create the batch file using Notepad

```
set PATH=C:\Program Files\Java\jdk1.5.0_01\bin
set CLASSPATH=C:\JavaPrograms
cd \JavaPrograms
```

Save the file as : "Javabatch.bat"

Demonstrate how to compile the Java source file at Dos prompt

```
javac HelloApp.java
```

Show the .class in the directory

Run the Java Bytecode file

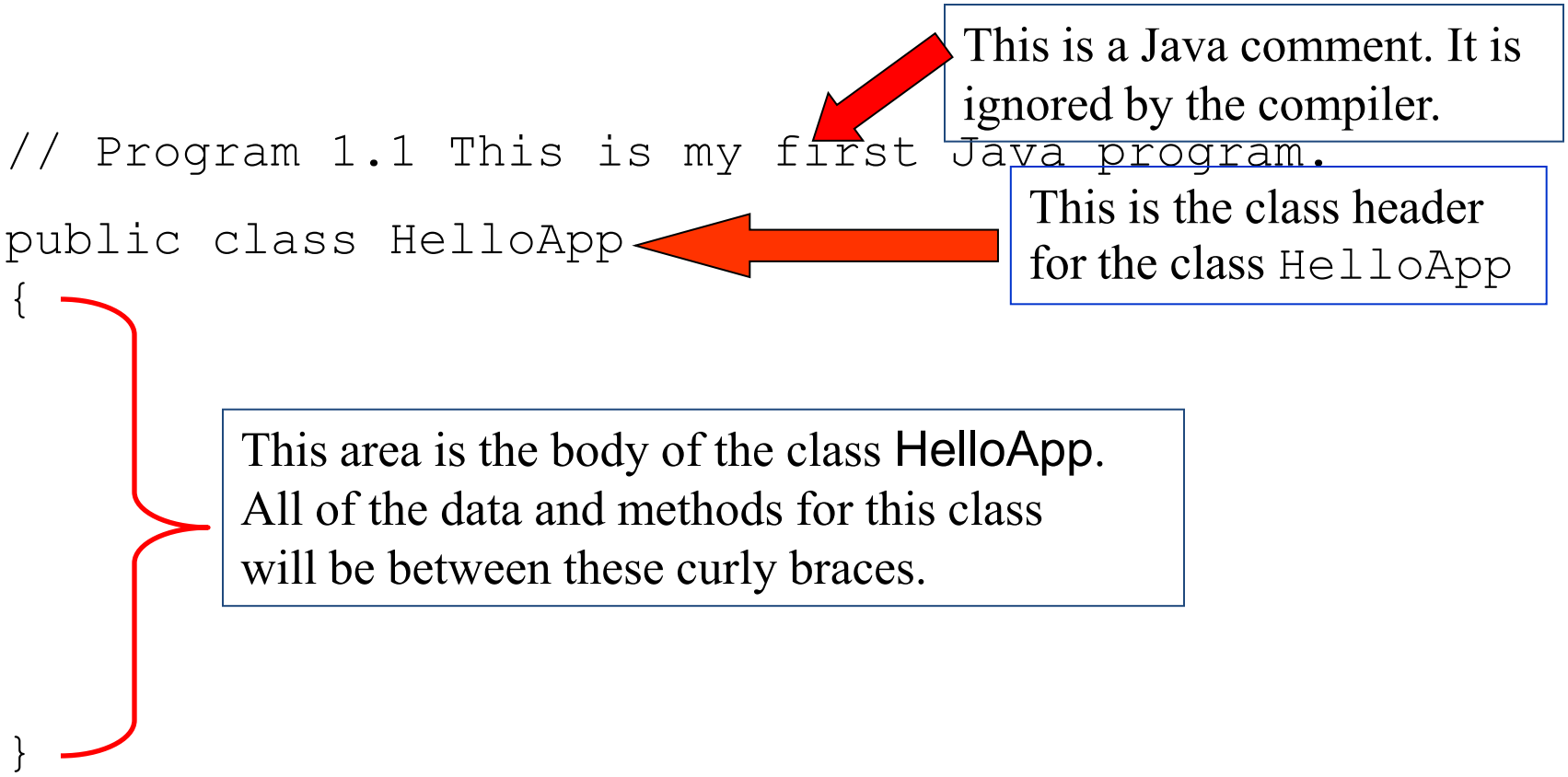
1. The Java source file can be run in DOS environment.
2. Run the Java source file at the Dos prompt using the `java` command.
3. The Java Virtual Machine (JVM) will interpret each lines of the Java byte codes and produces the results.

Demonstrate how to run the Java byte code file at Dos prompt

```
java HelloApp
```

Show the result

Analyzing the Example



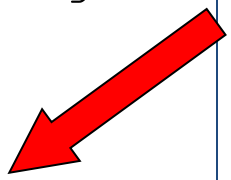
Analyzing the Example

```
// This is my first Java program.

public class HelloApp
{
    public static void main(String [] args)
    {

    }

}
```



This is Java `main` method. Every Java application must have a main method

This area is the body of the main method. All of the actions to be completed during the main method will be between these curly braces.

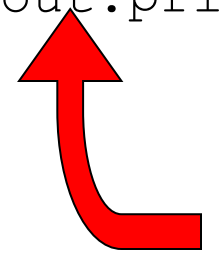
Analyzing the Example

```
// This is my first Java program.

public class HelloApp
{
    public static void main(String [] args)
    {
      System.out.println("Hello there");

      System.out.println("Welcome to Java");
    }

}
```



This is the Java Statement that is executed when the program runs.