

# 5 Getting Input from Keyboard



# Objectives

At the end of the lesson, the student should be able to:

- Create an interactive Java program that gets input from the keyboard
- Use the `BufferedReader` class to get input from the keyboard using a console
- Use the `JOptionPane` class to get input from the keyboard using a graphical user interface



# Getting Input from the Keyboard

- Two methods of getting input:
  - `BufferedReader` class
  - `JOptionPane` class
    - graphical user interface



# Using BufferedReader Class

- BufferedReader class
  - Found in the [java.io](#) package
  - Used to get input



# Steps to get Input

1. Add this at the top of your code:

```
import java.io.*;
```

2. Add this statement:

```
BufferedReader dataIn = new BufferedReader( new  
    InputStreamReader(System.in) );
```



# Steps to get Input

3. Declare a temporary String variable to get the input, and invoke the `readLine()` method to get input from the keyboard. You have to type it inside a try-catch block.

```
try{
    String temp = dataIn.readLine();
}catch( IOException e ){
    System.out.println("Error in getting input");
}
```



# Sample Program

```
1  import java.io.BufferedReader;
2  import java.io.InputStreamReader;
3  import java.io.IOException;
4
5  public class GetInputFromKeyboard {
6
7      public static void main( String[] args ){
8          BufferedReader dataIn = new BufferedReader(new
9              InputStreamReader( System.in) );
10
11         String name = "";
12         System.out.print("Please Enter Your Name:");
13         try{
14             name = dataIn.readLine();
15         }catch( IOException e ){
16             System.out.println("Error!");
17         }
18         System.out.println("Hello " + name + "!");
19     }
20 }
```



# Sample Program

- The lines,

```
import java.io.BufferedReader;  
import java.io.InputStreamReader;  
import java.io.IOException;
```

indicate that we want to use the classes `BufferedReader`, `InputStreamReader` and `IOException` which are inside the `java.io` package.

- These statements can also be written as,

```
import java.io.*;
```



# Sample Program

- The Java Application Programming Interface (API) contains hundreds of predefined classes that you can use in your programs. These classes are organized into what we call packages.
- **Packages** contain classes that have related purpose.



# Sample Program

- The statement,

```
public class GetInputFromKeyboard {
```

means we declare a class named **GetInputFromKeyboard**

- The next statement declares the main method.

```
public static void main( String[] args ){
```



# Sample Program

- The statement,

```
BufferedReader dataIn = new BufferedReader(new InputStreamReader  
                                           ( System.in ) );
```

declares a variable named `dataIn`, with the class type `BufferedReader`.

- Don't worry about what the syntax means for now. We will cover more about classes and declaring classes later in the course.



# Sample Program

- The statement,

```
String name = "";
```

declares a String type variable name .

- The next statement,

```
System.out.print("Please Enter Your Name:");
```

outputs a String “Please Enter Your Name:” on the screen



# Sample Program

- The given block defines a try-catch block.

```
try{
    name = dataIn.readLine();
}catch( IOException e ){
    System.out.println("Error!");
}
```

This assures that the possible exceptions that could occur in the statement

```
name = dataIn.readLine();
```

will be caught.

- We will cover more about exception handling in the latter part of this course.



# Sample Program

- Now going back to the statement,

```
name = dataIn.readLine();
```

the method call, `dataIn.readLine()`, gets input from the user and will return a `String` value.

- This value will then be saved to our `name` variable, which we will use in our final statement to greet the user,

```
System.out.println("Hello " + name + "!");
```



# Using JOptionPane Class

- Another way to get input from the user is by using the `JOptionPane` class which is found in the `javax.swing` package.
- `JOptionPane` makes it easy to pop up a standard dialog box that prompts users for a value or informs them of something.



# Sample Program

```
1 import javax.swing.JOptionPane;
2
3 public class GetInputFromKeyboard {
4
5     public static void main( String[] args ){
6         String name = "";
7         name=JOptionPane.showInputDialog("Please enter your name");
8         String msg = "Hello " + name + "!";
9         JOptionPane.showMessageDialog(null, msg);
10    }
11}
```



# Sample Program Output



# Sample Program

- The statement,

```
import javax.swing.JOptionPane;
```

indicates that we want to import the class `JOptionPane` from the `javax.swing` package.

- This can also be written as,

```
import javax.swing.*;
```



# Sample Program

- The statement,  

```
name=JOptionPane.showInputDialog("Please enter your name");
```

creates a JOptionPane input dialog, which will display a dialog with a message, a textfield and an OK button as shown in the figure.
- This returns a String which we will save in the `name` variable.



# Sample Program

- The statement,

```
String msg = "Hello " + name + "!";
```

creates the welcome message, which we will store in the msg variable.



# Sample Program

- The statement,  

```
JOptionPane.showMessageDialog(null, msg);
```

displays a dialog which contains a message and an OK button.



# Summary

- Discussed two ways of getting input from the user by using the classes:
  - BufferedReader
  - JOptionPane
- Brief overview of packages
  - Groups related classes in Java
  - Classes inside packages can be used by importing the package

