

Input via Scanner & JOptionPane

- **Scanner**- a Java class that provides methods for obtaining data from System.in (& for other things too)
- defined in the Java library named `java.util` and so an `import` statement is required

```
import java.util.Scanner;
```

- **JOptionPane** - a Java class that provides methods for interacting with user for input and output
- defined in the Java library named `javax.swing` and so an `import` statement is required

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

Import statements must be at very start of code

Input Using the Scanner Class

- **System** - a pre-defined Java class that has an object named **in**.

- The standard input stream is **System.in**.

- We can define a scanner object as:

```
Scanner keyboard = new Scanner(System.in);
```

- The `keyboard` object above is a `Scanner` object to be used to get user input from the keyboard

- The `Scanner` class is defined in the Java library named `java.util`

→ need an `import` statement for this

```
import java.util.Scanner;
```

Input Using the Scanner Class

| Useful Scanner methods | |
|----------------------------|---|
| <code>hasNext()</code> | returns true if the scanner has more tokens |
| <code>next()</code> | returns the next token |
| <code>nextLine()</code> | returns the next line |
| <code>nextInt()</code> | returns the next <code>int</code> in the input stream |
| <code>nextDouble()</code> | returns the next <code>double</code> in the input stream |
| <code>nextBoolean()</code> | returns the next <code>boolean</code> in the input stream |

data types?



Sample program – convert Celsius to Fahrenheit

Demo in class

Get a value in Celsius from user.... Use Scanner

Perform calculation

Report result to user.... Use System.out.println

JOptionPane

We can use this class to manage input and output ... programs need an `import` statement

JOptionPane

We can use this class to manage input and output ... programs need an `import` statement

To display information to the user we just use:

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

A string goes here

The user sees a pop-up window and must click OK for the program to continue `showMessageDialog` does not complete until the click.

JOptionPane

To get information from the user we just use

```
JOptionPane.showInputDialog(...)
```

A message string goes here

A string variable goes here

```
    = JOptionPane.showInputDialog (          ) ;
```



User sees a pop-up window displaying the message and with a box where text is entered by the user.

User then clicks OK for the program to continue and then a value is assigned to the variable on the left of the equals sign.

Input will be a text string

.... Later we learn how to convert these to numeric

Sample program – get text from user & report length

Demo in class

Get text from user.... Use JOptionPane

Determine length

Report result to user.... Use JOptionPane