Practical 6

- On completion of this lab you should be able to write more sophisticated methods, particularly using parameters and returning data. You will also learn how to use the String methods.

Escape sequences are used to format Strings in Java:

Escape Sequences

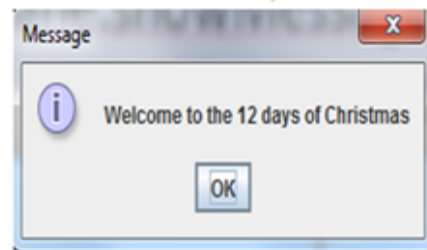| Escape Sequence	Description
\t	Insert a tab in the text at this point.
\b	Insert a backspace in the text at this point.
\n	Insert a newline in the text at this point.
\r	Insert a carriage return in the text at this point.
\f	Insert a formfeed in the text at this point.
\'	Insert a single quote character in the text at this point.
\"	Insert a double quote character in the text at this point.
\\	Insert a backslash character in the text at this point.

- Research the use of escape characters in Java.

Coding the showMessageDialog() method

- Code the following.
- Ensure you import the swing components needed.
- Call them Practical6_userDialog1, Practical6_userDialog2, Practical6_userDialog3.
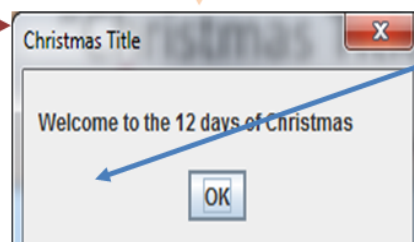
Slide 1

null will work as first parameter.

```
JOptionPane.showMessageDialog(null,
        "Welcome to the 12 days of Christmas");
```

Message

(i) Welcome to the 12 days of Christmas

OK

Text in Dialog box

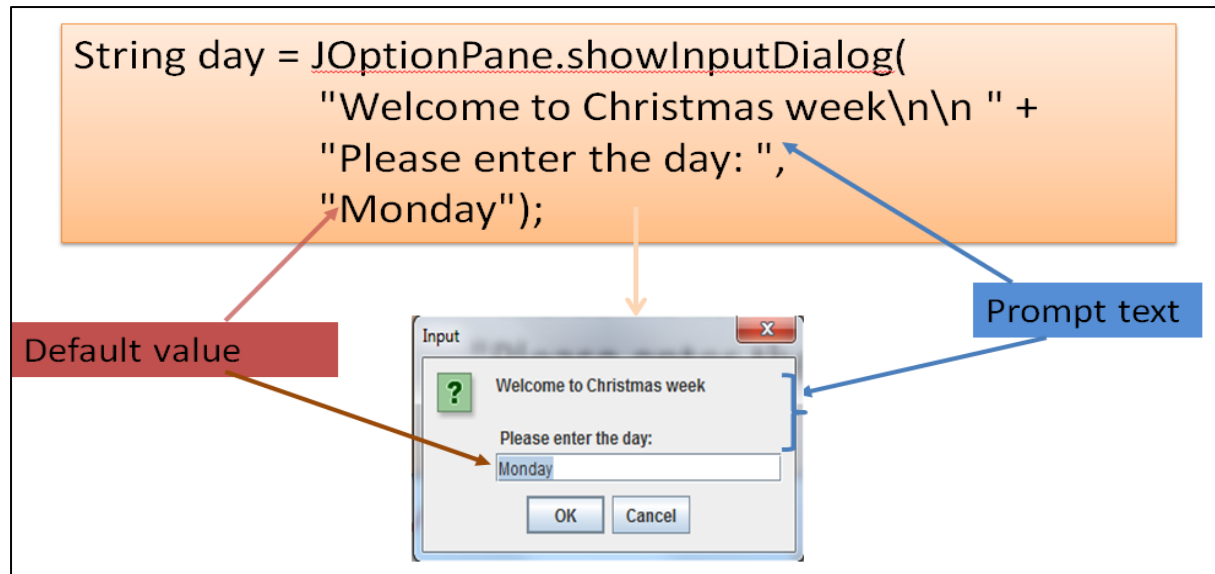**Slide 2**

```
JOptionPane.showMessageDialog(null,
        "Welcome to the 12 days of Christmas",
        "Christmas Title",
        JOptionPane.PLAIN_MESSAGE);
```

Text for title of box

This means 'no icon'

Christmas Title

Welcome to the 12 days of Christmas

OK

```
String day = JOptionPane.showInputDialog(
        "Welcome to Christmas week\n\n " +
        "Please enter the day: ",
        "Monday");
```

Default value

Prompt text

Input

? Welcome to Christmas week

Please enter the day:

Monday

OK   Cancel

Redo the above examples with your own examples.

Exercises

- For each exercise listed below, open a new sketchbook.
- You may need to visit the Processing website for additional information.
- When you are finished all your exercises, zip all your exercises into one file and send it as **Practical 6**.

Console Exercise 1a (No JOptionPane)
- Write the program that will have a method that has no parameters and its job is to find the larger of 2 numbers and print the result to the screen. . Do not use a max method for these exercises to do this. You must code how to calculate the max.

Console Exercise 1b (No JOptionPane)
- Write the program that will have a method that has 2 parameters (two numbers) and its job is to find the larger of 2 numbers and print the result to the screen.

Console Exercise 1c (No JOptionPane – No User Input)
- Write the program that will have a method that has 2 parameters (two numbers) and its job is to find the larger of 2 numbers and return the larger number to where it was called from and print the result to the screen

Console Exercise 2a (No JOptionPane – No User Input)
- Write the program that will have a method that has no parameters and its job is to find the largest of 3 numbers and print the result to the screen.

Console Exercise 2b (No JOptionPane – No User Input)

- Write the program that will have a method that has 3 parameters and its job is to find the largest of the 3 numbers and print the result to the screen.

Console Exercise 2c(No JOptionPane – No User Input)

- Write the program that will have a method that has 3 parameters and its job is to find the largest of the numbers and return the larger number to where it was called from and print the result to the screen.

Console Exercise 3

- Put all of these exercises above together in one program and ensure it compiles properly.

Console Exercise 4 (No JOptionPane – No User Input)

- Write the code that will convert a farenheit temperature to a Celsius temperature.
- Write a method called **farenheitToCelsius** that takes one float parameter.
- The return type for this method is **float**.
- The method returns the result of the conversion: (farenheit - 32.0) * (5.0/9.0)

Calling the coversion method

- The farenheitToCelsius method should be called from the draw() method.
- The value retuned from the calculation should be printed to the console.
- Test your code by passing the farenheit value of 451. The celsius value printed should be: 232.77779

Exercise 5 (Use JOptionPane – You must have user input for this exercise)

- Redo Console Exercise 2a to 2c using dialog boxes. This time you should ask the user to enter the values using dialog boxes and display them using dialog boxes.

Array Questions

1. Write a program using arrays to take in 5 student ages. You are then to print this information to the screen (use JOptionPane).

2. Ask the user what the size of the array is and then set the size of the array. You are then to take in the student ages in an array and print them out (use JOptionPane).