Swing and JOptionPane

Using Graphical User Interface (GUI) Components

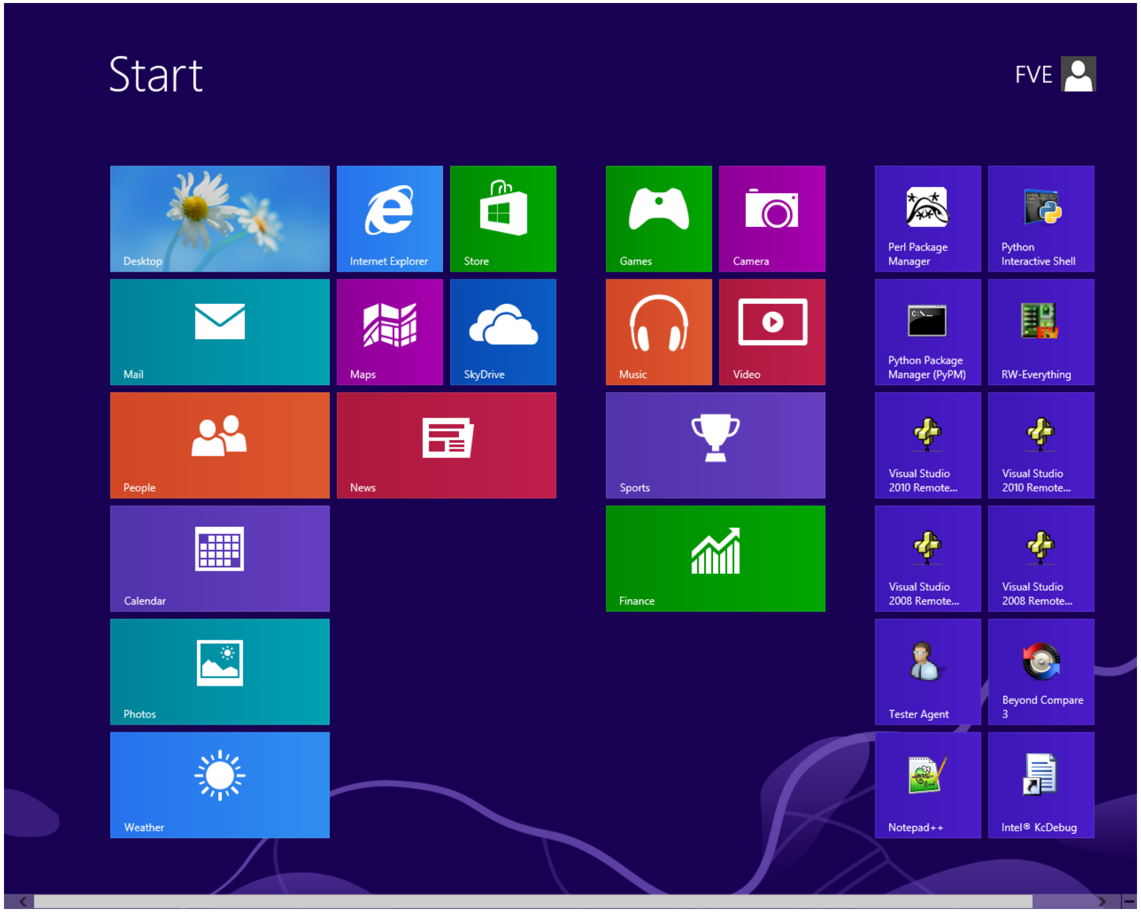
Produced by:

Dr. Siobhán Drohan
Mr. Colm Dunphy
Mr. Diarmuid O’Connor

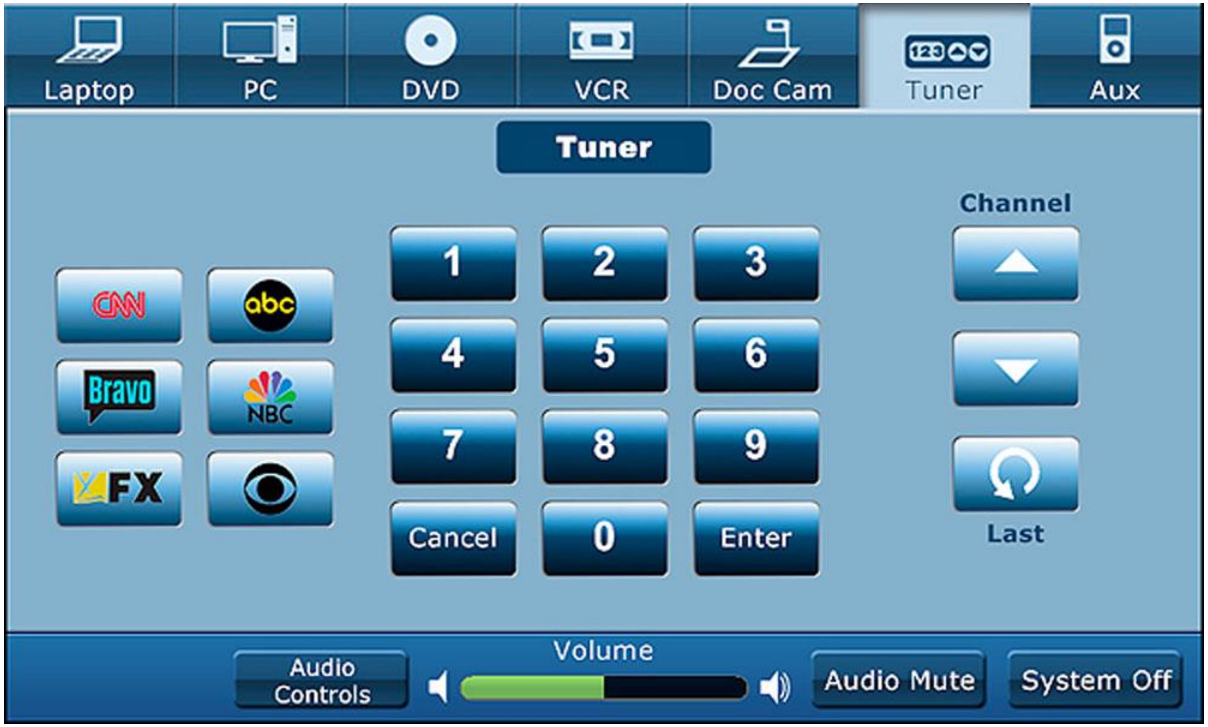
Waterford Institute *of* Technology
INSTITIÚID TEICNEOLAÍOCHTA PHORT LÁIRGE

Department of Computing and Mathematics
http://www.wit.ie/

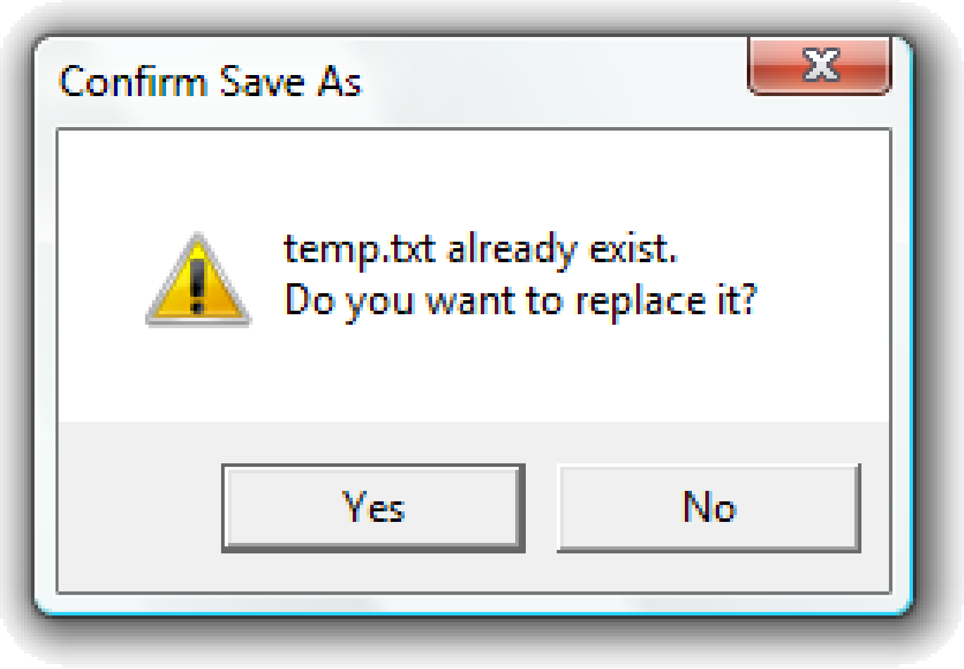
Graphical User Interface (GUI)



Graphical User Interface (GUI)



Graphical User Interface (GUI)



Confirm Save As

temp.txt already exist.
Do you want to replace it?

Topics list

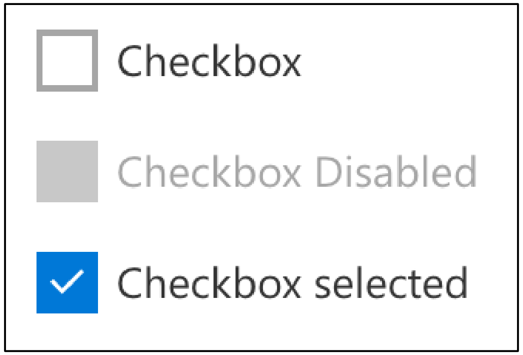
- Swing

- JOptionPane

- JOptionPane methods

What is Swing?

- **Swing** is a set of program components for **Java** programmers that allow you to create graphical user interface (GUI) components



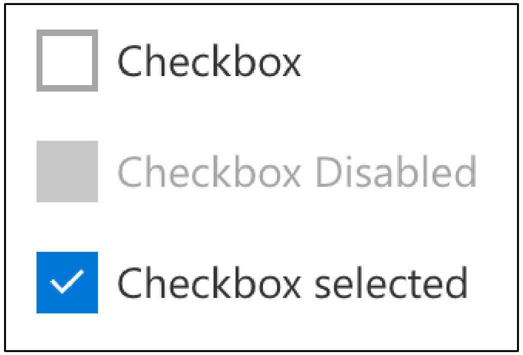
□ Checkbox

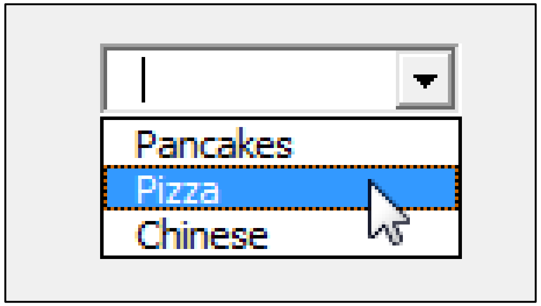
▨ Checkbox Disabled

☑ Checkbox selected

What is Swing?

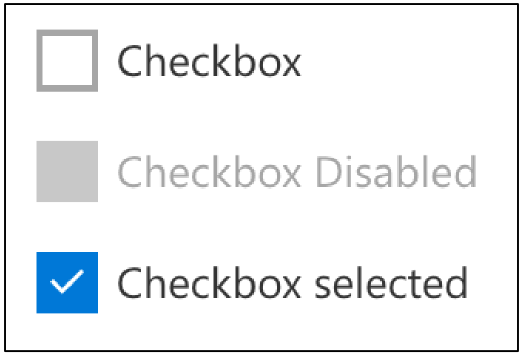
- **Swing** is a set of program components for **Java** programmers that allow you to create graphical user interface (GUI) components





What is Swing?

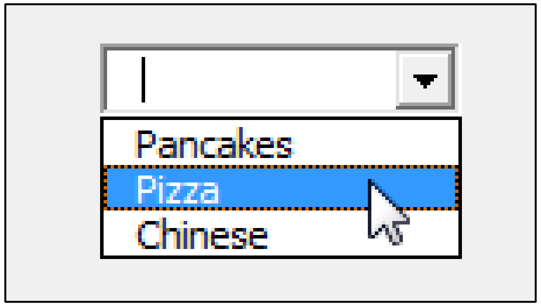
- **Swing** is a set of program components for **Java** programmers that allow you to create graphical user interface (GUI) components

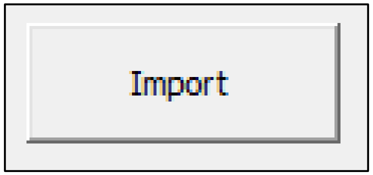


□ Checkbox

□ Checkbox Disabled

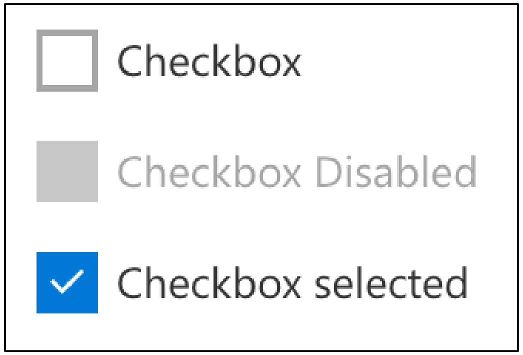
☑ Checkbox selected

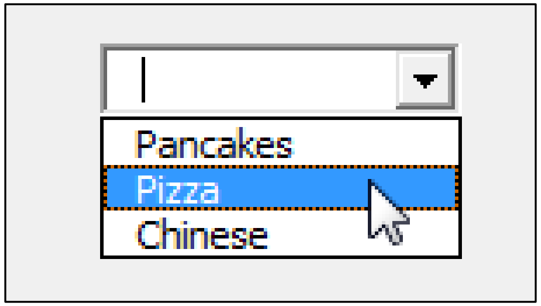


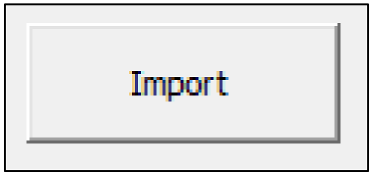


What is Swing?

- **Swing** is a set of program components for **Java** programmers that allow you to create graphical user interface (GUI) components

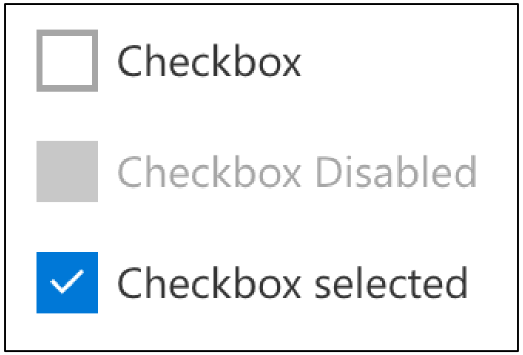


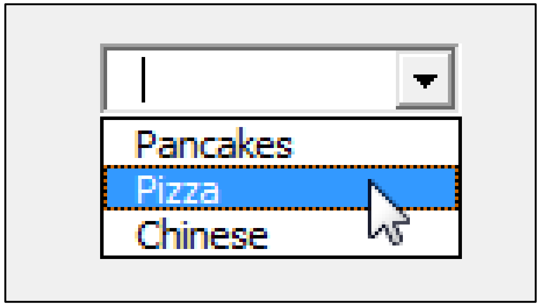


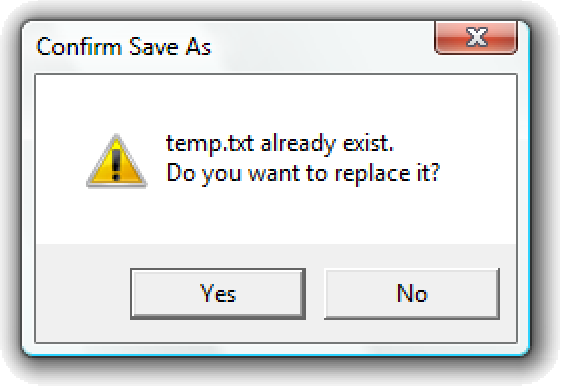


What is Swing?

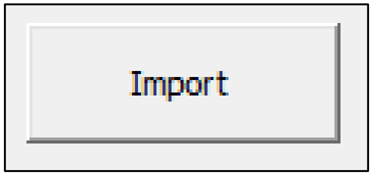
- **Swing** is a set of program components for **Java** programmers that allow you to create graphical user interface (GUI) components






Confirm Save As

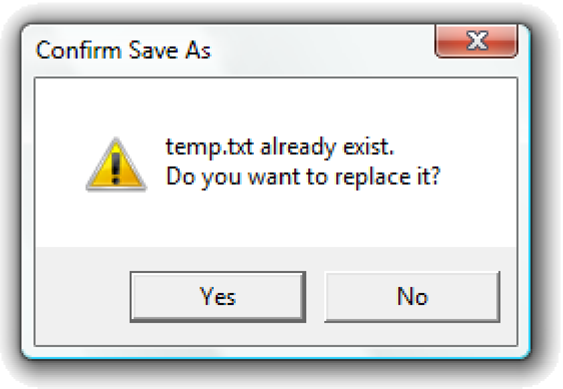
temp.txt already exist.
Do you want to replace it?



What is Swing?

- **Swing** is a set of program components for **Java** programmers that allow you to create graphical user interface (GUI) components

In this module, we are only interested in working with dialog /message boxes.



Confirm Save As

temp.txt already exist.
Do you want to replace it?

Using Swing

- We make **Swing** components available to us by importing the Swing components at the start of the program.

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

Using Swing

- We make **Swing** components available to us by importing the Swing components at the start of the program.

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

However, this imports **all** the Swing components (and there are a lot!)

Using Swing

- We make **Swing** components available to us by importing the Swing components at the start of the program.

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

As we only plan on using JOptionPane, we can just import that Swing component.

Using JOptionPane with Swing

- Having imported **JOptionPane** from **Swing**, we can use these methods:

  showMessageDialog

  showInputDialog

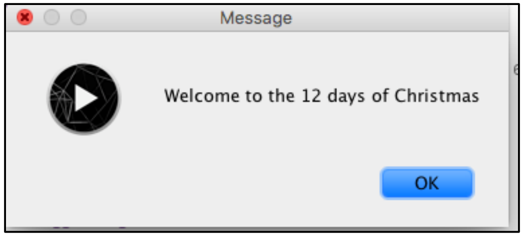
  showConfirmDialog

Using JOptionPane with Swing

- Having imported **JOptionPane** from **Swing**, we can use these methods:

  showMessageDialog

  - Simple message output



Welcome to the 12 days of Christmas

  showInputDialog

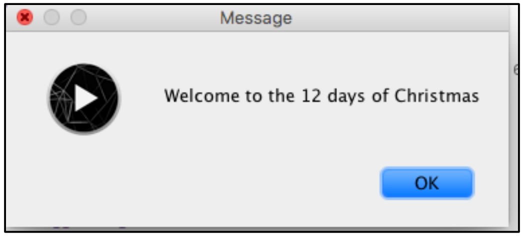
  showConfirmDialog

Using JOptionPane with Swing

- Having imported **JOptionPane** from **Swing**, we can use these methods:

    showMessageDialog

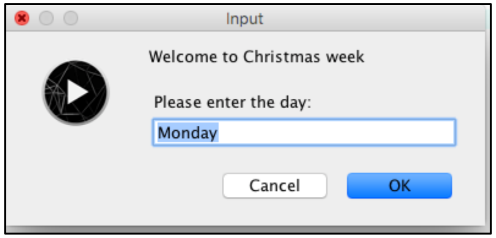
    - Simple message output



Welcome to the 12 days of Christmas

    showInputDialog

    - Allows user to type in (string) input



Welcome to Christmas week

Please enter the day:

Monday

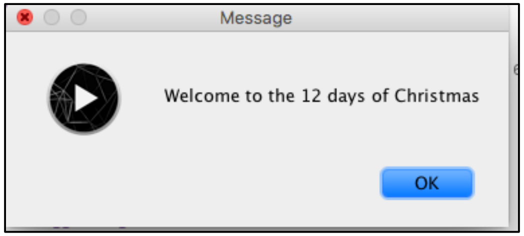
    showConfirmDialog

Using JOptionPane with Swing

- Having imported **JOptionPane** from **Swing**, we can use these methods:

showMessageDialog

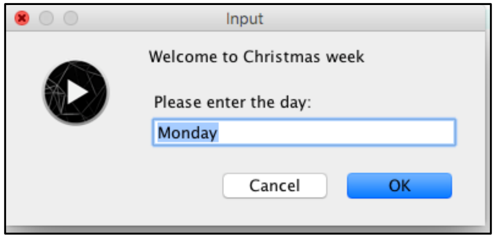
- Simple message output



Welcome to the 12 days of Christmas

showInputDialog

- Allows user to type in (string) input



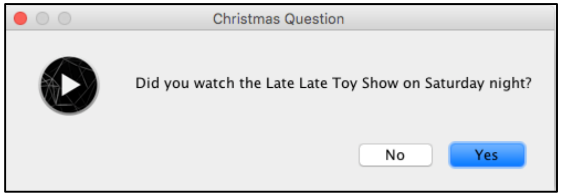
Welcome to Christmas week

Please enter the day:

Monday

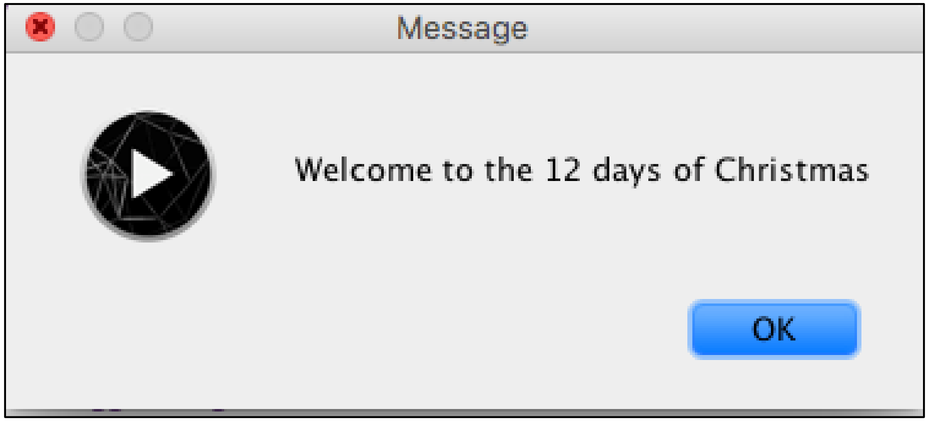
showConfirmDialog

- Allow the user to choose an option



Did you watch the Late Late Toy Show on Saturday night?

showMessageDialog - Simple Message output



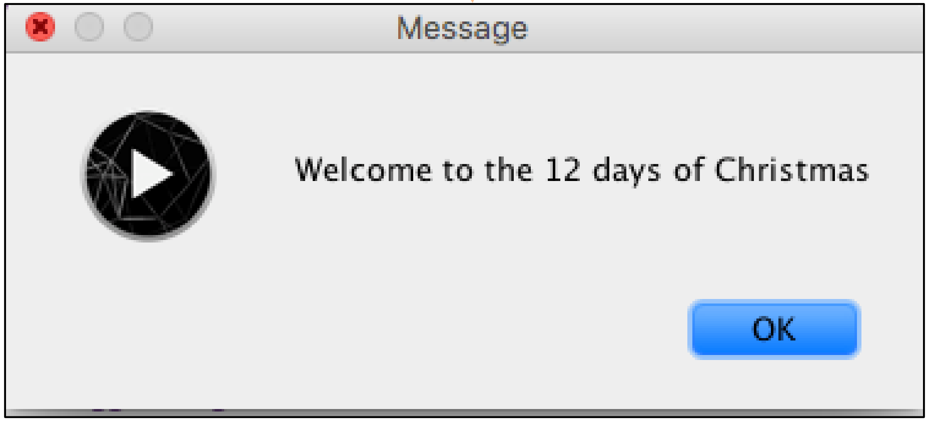
Message

Welcome to the 12 days of Christmas

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showMessageDialog - Simple Message output

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



Message

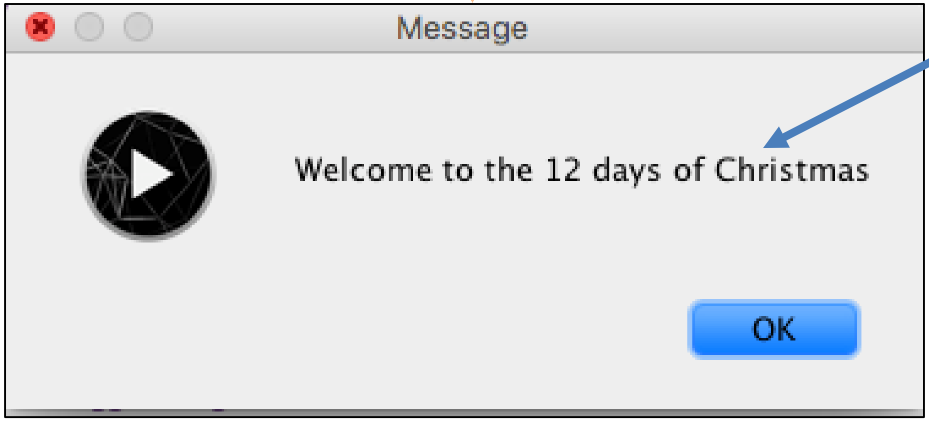
Welcome to the 12 days of Christmas

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showMessageDialog - Simple Message output

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

Text in Dialog box



Welcome to the 12 days of Christmas

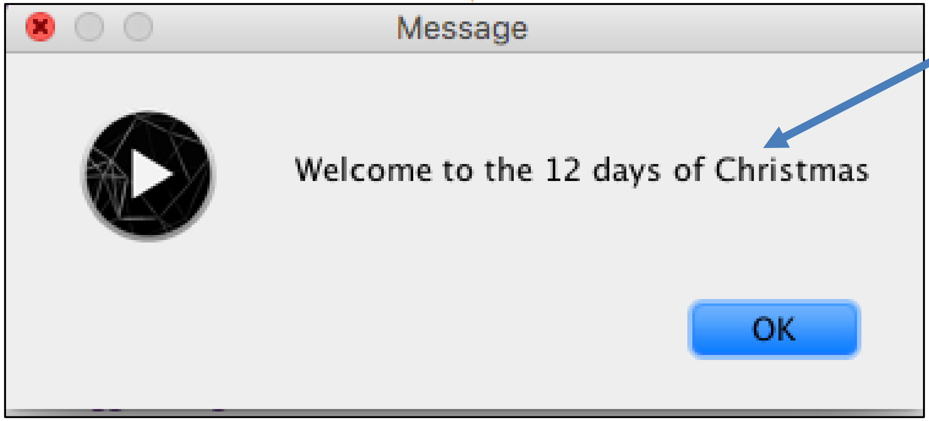
https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showMessageDialog - Simple Message output

Parent Component – for our purposes, **null** will work as first parameter.

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

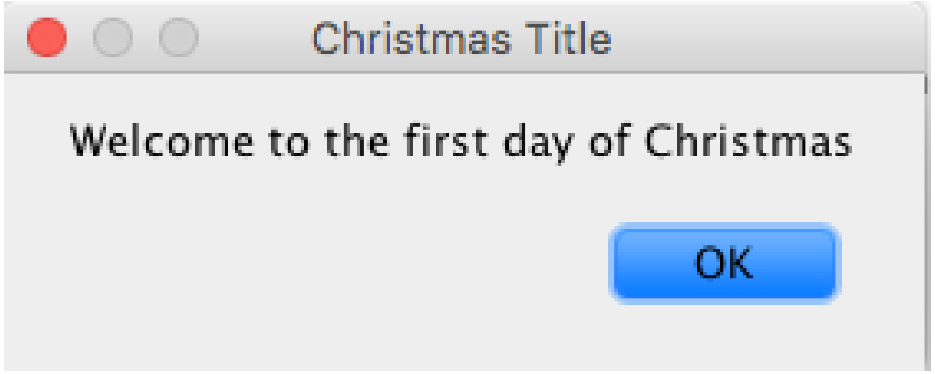
Text in Dialog box



Welcome to the 12 days of Christmas

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showMessageDialog - Message output with label



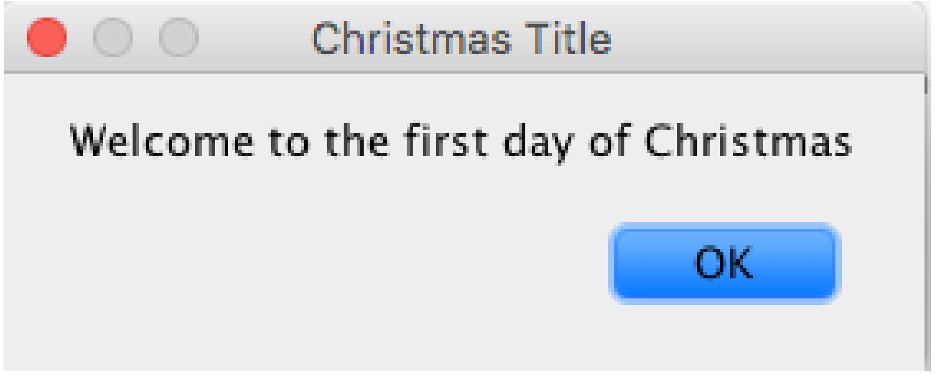
Christmas Title

Welcome to the first day of Christmas

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showMessageDialog - Message output with label

```
JOptionPane.showMessageDialog(null,
                  "Welcome to the first day of Christmas”,
                  “Christmas Title”,
                  JOptionPane.PLAIN_MESSAGE);
```

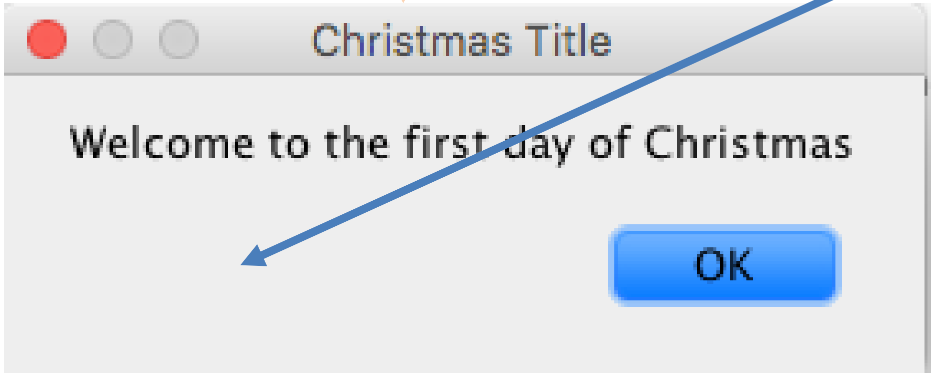


Welcome to the first day of Christmas

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showMessageDialog - Message output with label

```
JOptionPane.showMessageDialog(null,
                "Welcome to the first day of Christmas”,
                “Christmas Title”,
                JOptionPane.PLAIN_MESSAGE);
```


Christmas Title

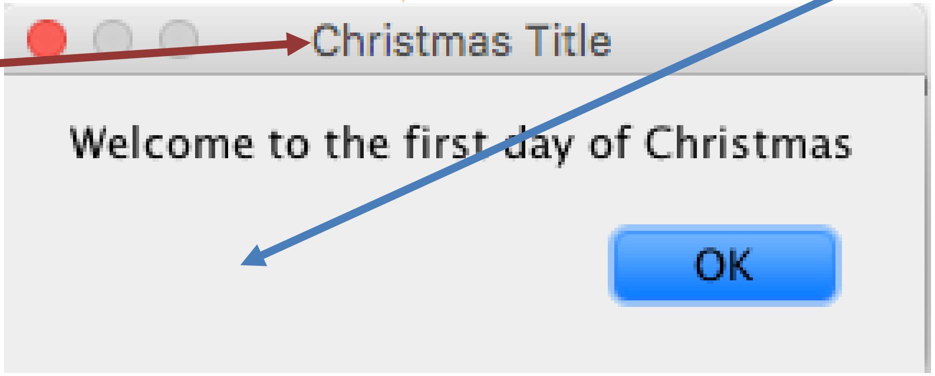
Welcome to the first day of Christmas

This means ‘no icon’

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showMessageDialog - Message output with label

```
JOptionPane.showMessageDialog(null,
                    "Welcome to the first day of Christmas”,
                    “Christmas Title”,
                    JOptionPane.PLAIN_MESSAGE);
```



Christmas Title

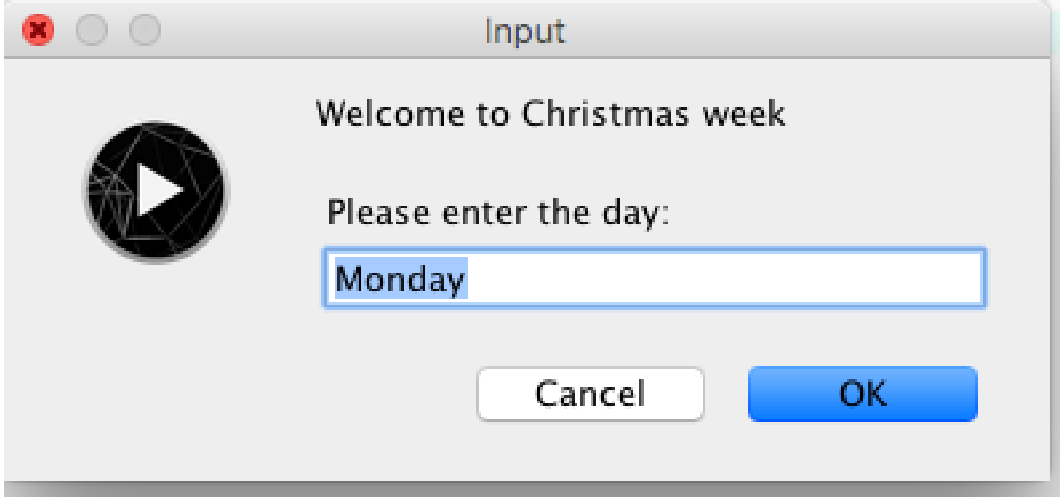
Welcome to the first day of Christmas

This means ‘no icon’

Text for title of box

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showInputDialog - Message output with label



Welcome to Christmas week

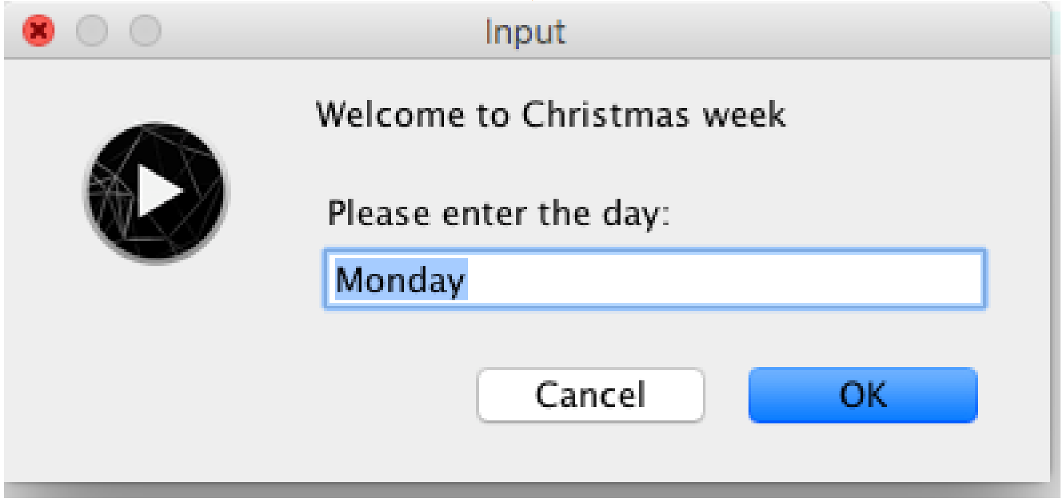
Please enter the day:

Monday

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showInputDialog - Message output with label

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



Input

Welcome to Christmas week

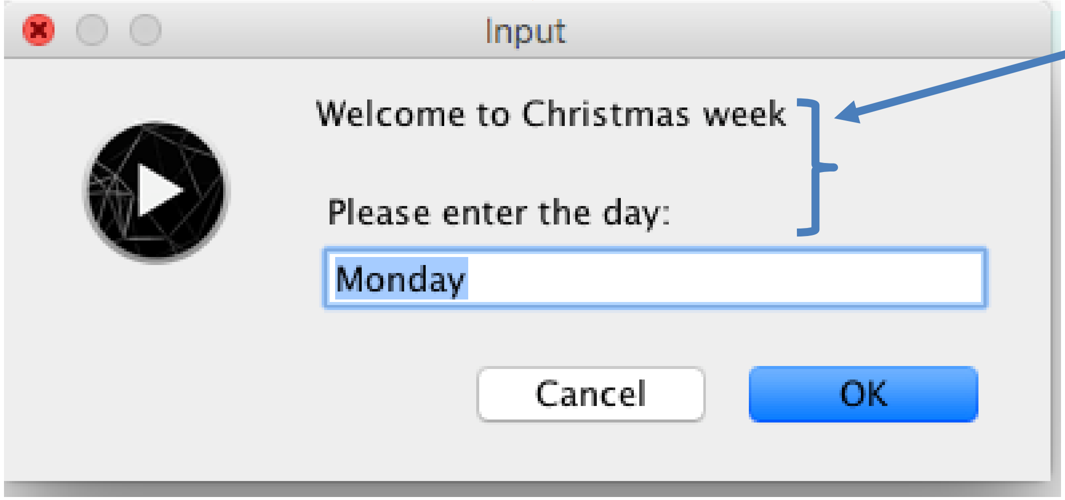
Please enter the day:

Monday

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showInputDialog - Message output with label

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



Welcome to Christmas week

Please enter the day:

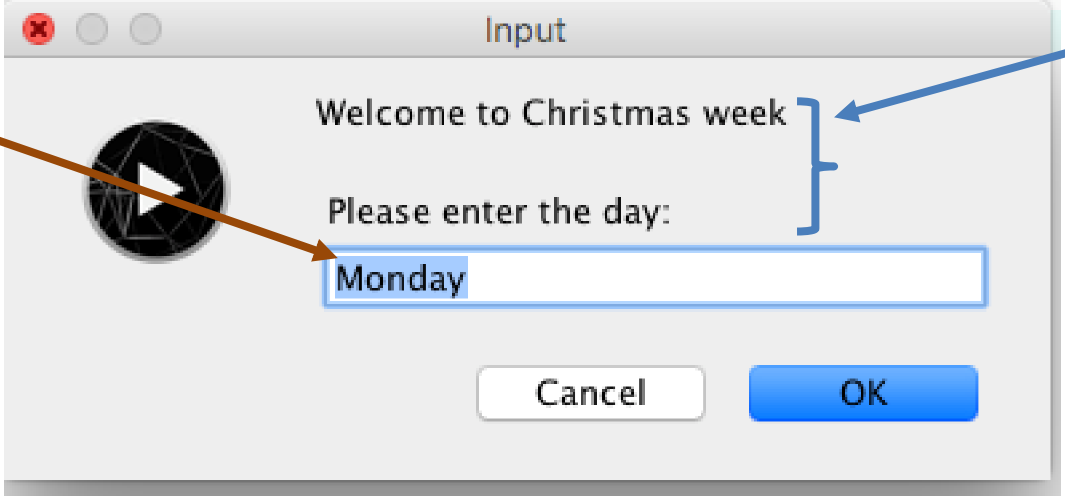
Monday

Prompt text

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showInputDialog - Message output with label

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



Input

Welcome to Christmas week

Please enter the day:

Monday

Default value

Prompt text

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

Reading in numbers via JOptionPane

- Problem:
  - showInputDialog returns a String
  - So if you type 22, it is the string “22”, so cannot use it as a number

Reading in numbers via JOptionPane

- Problem:
  - showInputDialog returns a String
  - So if you type 22, it is the string “22”, so cannot use it as a number
- Solution
  - Use a predefined method to convert it (or any such string) to a number.

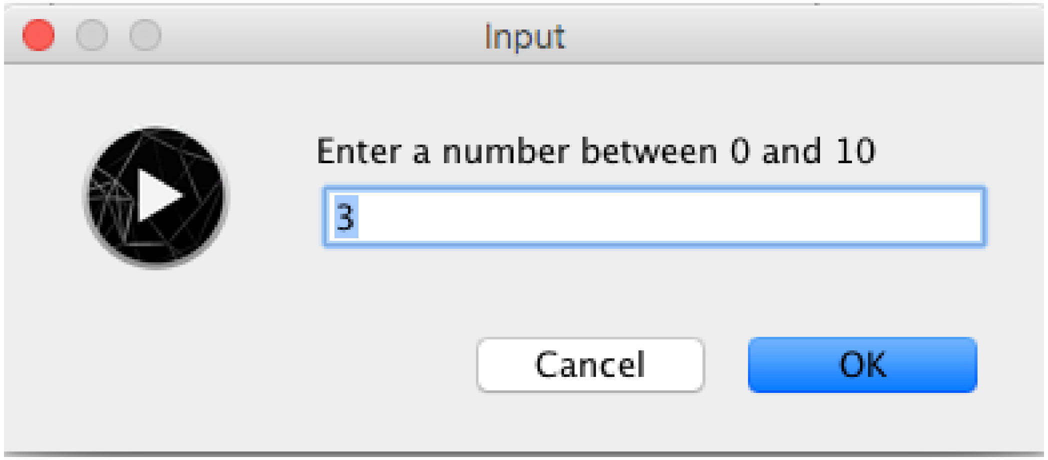
Reading in numbers via JOptionPane

- Problem:
  - – showInputDialog returns a String
  - – So if you type 22, it is the string “22”, so cannot use it as a number
- Solution
  - – Use a predefined method to convert it (or any such string) to a number.

Will print the number 25.

```
int number = Integer.parseInt("22");
println (number + 3);
```

Using parseInt with input



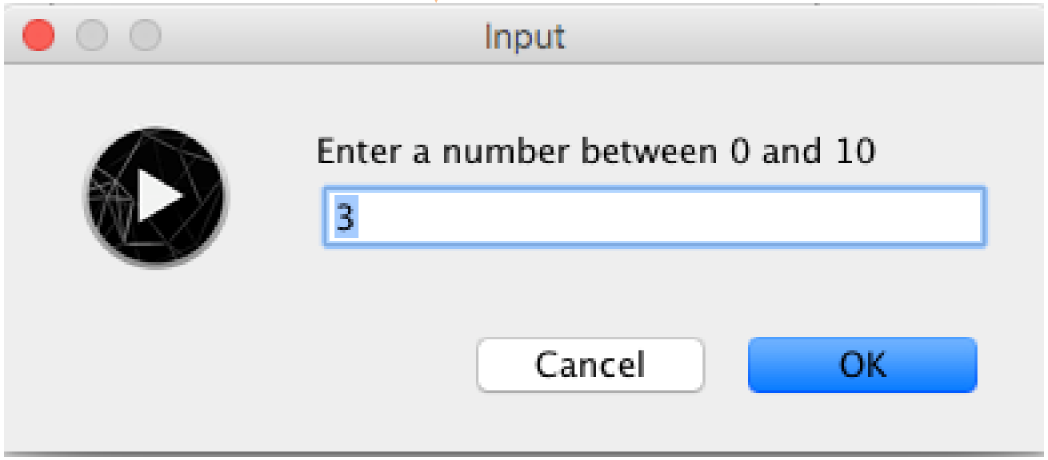
Enter a number between 0 and 10

3

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

Using parseInt with input

```
int num = Integer.parseInt  (JOptionPane.showInputDialog(
                    "Enter a number between 0 and 10", "3” ) );
```



Enter a number between 0 and 10

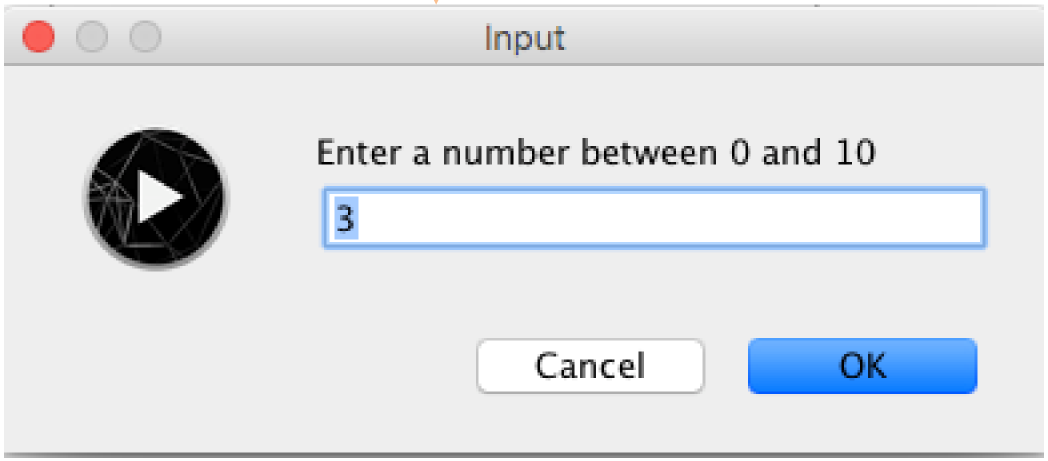
3

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

Using parseInt with input

```
int num = Integer.parseInt  (JOptionPane.showInputDialog(
                    "Enter a number between 0 and 10", "3” ) );
```

This converts the input String to an Integer and stores it in **num.**

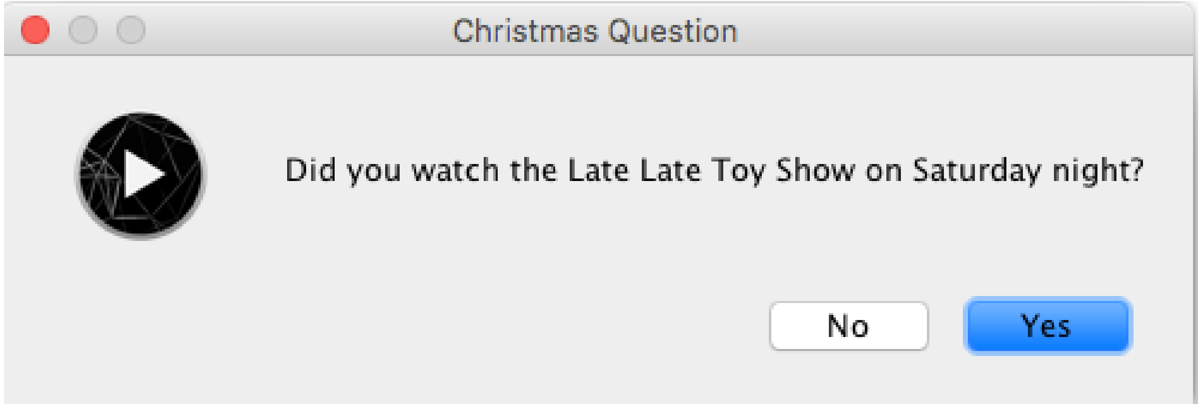


Enter a number between 0 and 10

3

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html

showConfirmDialog - Using the Yes/No option

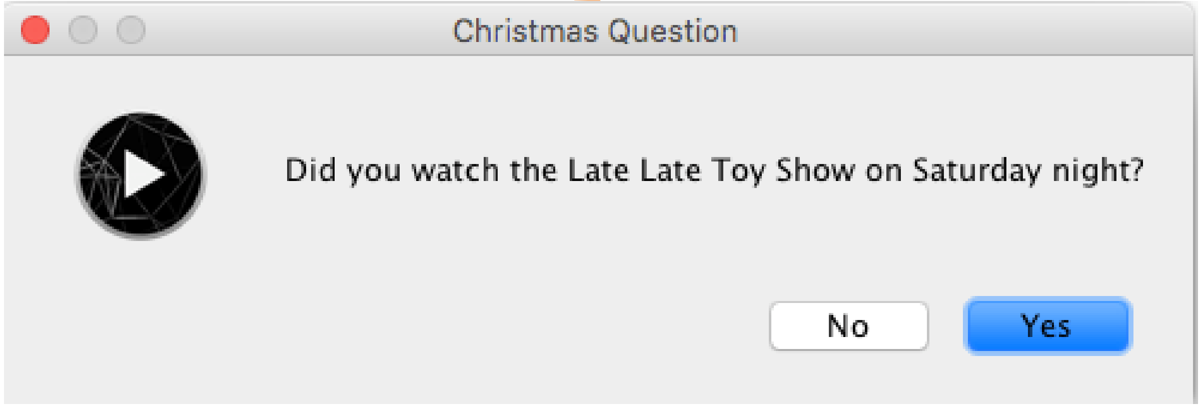


Did you watch the Late Late Toy Show on Saturday night?

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html and RTE

showConfirmDialog - Using the Yes/No option

```
int reply = JOptionPane.showConfirmDialog(null,
            “Did you watch the Late Late Toy Show on Saturday night?",
           "Christmas Question",
           JOptionPane.YES_NO_OPTION);
```



Christmas Question

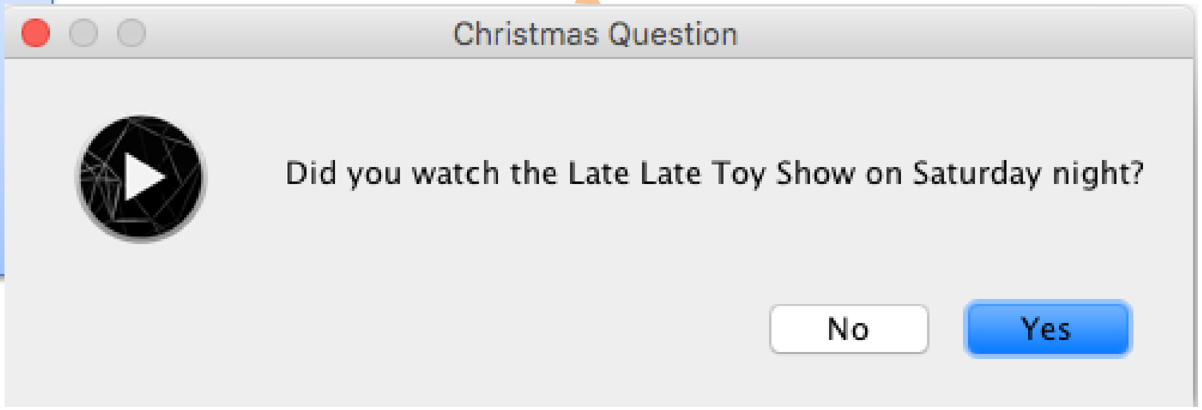
Did you watch the Late Late Toy Show on Saturday night?

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html and RTE

showConfirmDialog - Using the Yes/No option

```
int reply = JOptionPane.showConfirmDialog(null,
          “Did you watch the Late Late Toy Show on Saturday night?",
         "Christmas Question",
         JOptionPane.YES_NO_OPTION);
```

If you press ‘Yes’, JOptionPane.YES_OPTION will be returned, JOptionPane.NO_OPTION otherwise (reply will be assigned this value)



Christmas Question

Did you watch the Late Late Toy Show on Saturday night?

https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html and RTE

Questions?