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Lab 15

CISC 3115

//DwarfPlanets.java

import javafx.application.Application;

import javafx.fxml.FXMLLoader;

import javafx.scene.Parent;

import javafx.scene.Scene;

import javafx.stage.Stage;

*/\*\**

*This is the main application class for the*

*Dwarf Planets JavaFX application.*

*\*/*

public class DwarfPlanets extends Application

{

@Override

public void start(Stage primaryStage) throws Exception

{

Parent parent = FXMLLoader.*load*(getClass().getResource("DwarfPlanets.fxml"));

Scene scene = new Scene(parent,750,400);

scene.getStylesheets().add(getClass().getResource("application.css").toExternalForm());

primaryStage.setTitle("Dwarf Planets");

primaryStage.setScene(new Scene(parent));

primaryStage.show();

}

public static void main(String[] args)

{

// Launch the application.

*launch*(args);

}

}

//DwarfPlanetsController.java

import javafx.fxml.FXML;

import javafx.fxml.Initializable;

import javafx.scene.control.Label;

import javafx.scene.control.RadioButton;

import javafx.scene.control.ToggleGroup;

import javafx.scene.image.Image;

import javafx.scene.image.ImageView;

import java.awt.event.ActionEvent;

import java.net.URL;

import java.util.ResourceBundle;

*/\*\**

*This is the controller class for the*

*Dwarf Planets JavaFX application.*

*\*/*

public class DwarfPlanetsController implements Initializable

{

@FXML

private ImageView dwarfPlanetsImageView;

@FXML

private Label discoveredByLabel;

@FXML

private Label dateOfDiscoveryLabel;

@FXML

private Label orbitPeriodLabel;

@FXML

private Label lengthOfDayLabel;

@FXML

private Label namedAfterLabel;

@FXML

private ToggleGroup dwarfPlanetsToggleGroup;

@FXML

private RadioButton ceresRadioButton;

@FXML

private RadioButton erisRadioButton;

@FXML

private RadioButton haumeaRadioButton;

@FXML

private RadioButton makemakeRadioButton;

@FXML

private RadioButton plutoRadioButton;

// ADD LINES FOR TASK #3 HERE

// Declare private fields for the images

// Load the image files in the initialize method

@FXML

private Image ceres, eris, haumea, makemake, pluto;

@Override

public void initialize(URL location, ResourceBundle resources) {

ceres = new Image("/DwarfPlanetsController/Images/Ceres.png");

eris = new Image("/DwarfPlanetsController/Images/CEris.png");

haumea = new Image("/DwarfPlanetsController/Images/CHaumea.png");

makemake = new Image("/DwarfPlanetsController/Images/CMakemake.png");

pluto = new Image("/DwarfPlanetsController/Images/CPluto.png");

}

// Event listener for the ceresRadioButton

@FXML

public void ceresRadioButtonListener(ActionEvent event)

{

dwarfPlanetsImageView.setImage(ceres);

discoveredByLabel.setText("Giuseppe Piazzi");

dateOfDiscoveryLabel.setText("January 1, 1801");

orbitPeriodLabel.setText("4.60 Earth years");

lengthOfDayLabel.setText("9.07 Hours");

namedAfterLabel.setText("The Roman Goddess of corn and harvests");

}

// Event listener for the erisRadioButton

@FXML

public void erisRadioButtonListener(ActionEvent event)

{

dwarfPlanetsImageView.setImage(eris);

discoveredByLabel.setText("Brown, Trujillo, and Rabinowitz");

dateOfDiscoveryLabel.setText("October 21, 2003");

orbitPeriodLabel.setText("561.37 Earth years");

lengthOfDayLabel.setText("25.90 hours");

namedAfterLabel.setText("The ancient Greek goddess of discord and strife");

}

// Event listener for the haumeaRadioButton

@FXML

public void haumeaRadioButtonListener(ActionEvent event)

{

dwarfPlanetsImageView.setImage(haumea);

discoveredByLabel.setText("Sierra Nevada Observatory");

dateOfDiscoveryLabel.setText("March 7, 2003");

orbitPeriodLabel.setText("281.93 Earth years");

lengthOfDayLabel.setText("3.91 hours");

namedAfterLabel.setText("The hawaiian goddess of childbirth and fertility");

}

// Event listener for the makemakeRadioButton

@FXML

public void makemakeRadioButtonListener(ActionEvent event)

{

dwarfPlanetsImageView.setImage(makemake);

discoveredByLabel.setText("Brown, Trujillo, and Rabinowitz");

dateOfDiscoveryLabel.setText("March 31, 2005");

orbitPeriodLabel.setText("305.34 Earth years");

lengthOfDayLabel.setText("22.48 hours");

namedAfterLabel.setText("The Rapanui god of fertility");

}

// Event listener for the plutoRadioButton

@FXML

public void plutoRadioButtonListener(ActionEvent event)

{

dwarfPlanetsImageView.setImage(pluto);

discoveredByLabel.setText("Clyde Tombaugh");

dateOfDiscoveryLabel.setText("February 18, 1930");

orbitPeriodLabel.setText("247.92 Earth years");

lengthOfDayLabel.setText("153.29 hours");

namedAfterLabel.setText("The ancient Greek god of the underworld");

}

}

//DwarfPlanets.fxml

<?xml version="1.0" encoding="UTF-8"?>

<?import javafx.scene.image.\*?>

<?import javafx.scene.control.\*?>

<?import java.lang.\*?>

<?import javafx.scene.layout.\*?>

<?import javafx.scene.layout.AnchorPane?>

<AnchorPane prefHeight="454.0" prefWidth="737.0" xmlns="http://javafx.com/javafx/8" xmlns:fx="http://javafx.com/fxml" fx:controller="DwarfPlanetsController">

<children>

<RadioButton fx:id="ceresRadioButton" layoutX="15.0" layoutY="83.0" mnemonicParsing="false" onAction="#ceresRadioButtonListener" text="Ceres">

<toggleGroup>

<ToggleGroup fx:id="ToggleGroup" />

</toggleGroup>

</RadioButton>

<RadioButton fx:id="erisRadioButton" layoutX="15.0" layoutY="123.0" mnemonicParsing="false" onAction="#erisRadioButtonListener" text="Eris" toggleGroup="$dwarfPlanetsToggleGroup" />

<RadioButton fx:id="makemakeRadioButton" layoutX="16.0" layoutY="201.0" mnemonicParsing="false" onAction="#makemakeRadioButtonListener" text="Makemake" toggleGroup="$dwarfPlanetsToggleGroup" />

<RadioButton fx:id="haumeaRadioButton" layoutX="16.0" layoutY="161.0" mnemonicParsing="false" onAction="#haumeaRadioButtonListener" text="Haumea" toggleGroup="$dwarfPlanetsToggleGroup" />

<RadioButton fx:id="plutoRadioButton" layoutX="18.0" layoutY="240.0" mnemonicParsing="false" onAction="#plutoRadioButtonListener" text="Pluto" toggleGroup="$dwarfPlanetsToggleGroup" />

<ImageView fx:id="dwarfPlanetsImageView" fitHeight="191.0" fitWidth="225.0" layoutX="169.0" layoutY="75.0" pickOnBounds="true" preserveRatio="true" />

<Label layoutX="412.0" layoutY="97.0" text="Discovered by :" />

<Label layoutX="413.0" layoutY="127.0" text="Date of Discovery:" />

<Label layoutX="413.0" layoutY="157.0" text="Orbit Period:" />

<Label layoutX="414.0" layoutY="188.0" text="Length of Day:" />

<Label layoutX="414.0" layoutY="222.0" text="Named After:" />

<Label fx:id="discoveredByLabel" layoutX="562.0" layoutY="96.0" prefHeight="27.0" prefWidth="165.0" />

<Label fx:id="dateOfDiscoveryLabel" layoutX="562.0" layoutY="126.0" prefHeight="27.0" prefWidth="165.0" />

<Label fx:id="orbitPeriodLabel" layoutX="562.0" layoutY="154.0" prefHeight="27.0" prefWidth="165.0" />

<Label fx:id="lengthOfDayLabel" layoutX="563.0" layoutY="185.0" prefHeight="27.0" prefWidth="165.0" />

<Label fx:id="namedAfterLabel" alignment="TOP\_LEFT" layoutX="564.0" layoutY="216.0" prefHeight="40.0" prefWidth="160.0" wrapText="true" />

</children>

</AnchorPane>

Output:  
