

TP1

ARCHITECTURE D'UNE APPLICATION JAVAFX

Application : représente une application JavaFX

Stage : le conteneur de plus haut niveau de l'application

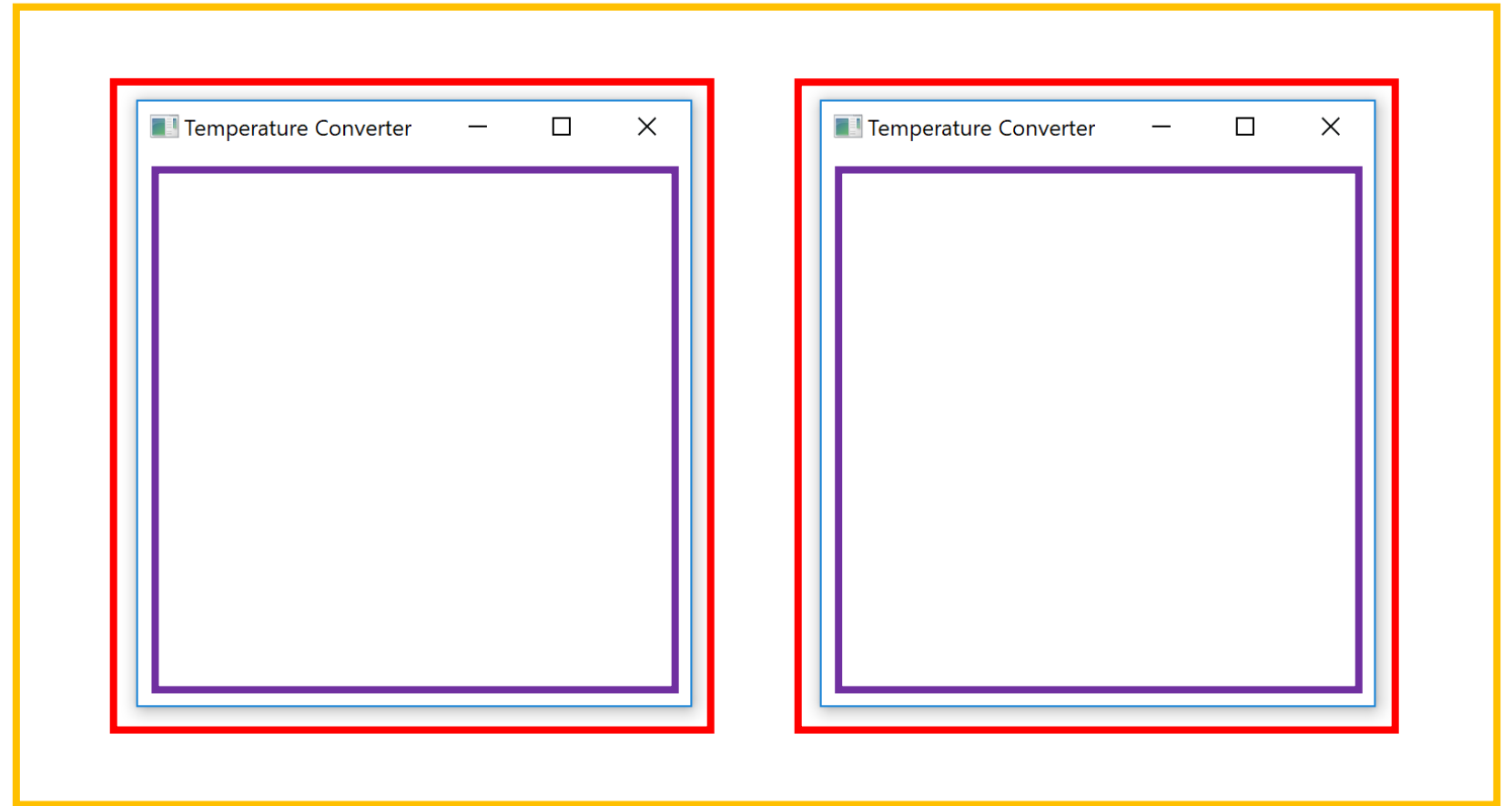
Scene : contient les composants visuels

ARCHITECTURE D'UNE APPLICATION JAVAFX

Application

Stage

Scene

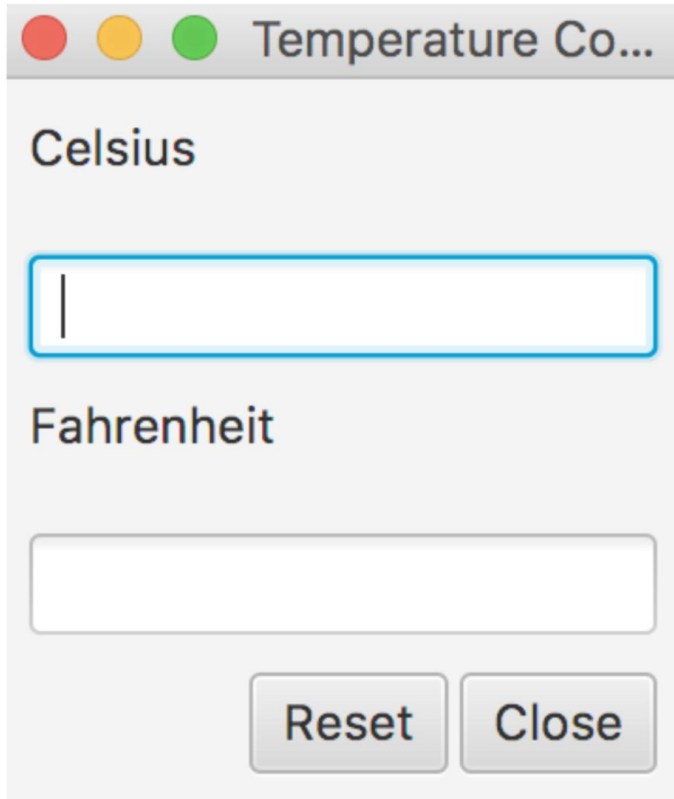


BASE D'UNE APPLICATION JAVAFX

```
1 import javafx.application.Application;
2 import javafx.scene.Scene;
3 import javafx.scene.layout.Pane;
4 import javafx.stage.Stage;
5
6 public class MyClass extends Application
7 {
8     @Override
9     public void start(Stage stage) throws Exception
10    {
11        Pane root = new Pane(); //Create a panel
12        Scene scene = new Scene(root); //Put that panel in the scene
13        stage.setTitle("My Stage"); //Set the title of the stage
14        stage.setScene(scene); //Set the scene of the stage
15        stage.show(); //Show the stage
16    }
17
18    public static void main(String[] args)
19    {
20        Launch(args); //Launch the application
21    }
22 }
```

CONSTRUIRE L'INTERFACE DU TP1

Ce qu'on veut :



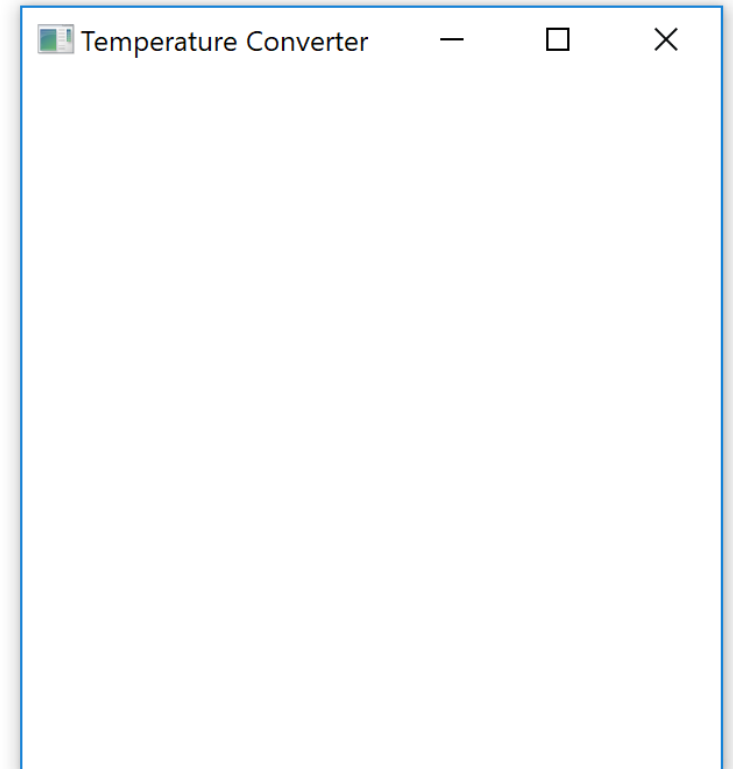
A mockup of a temperature converter window. The title bar is grey with three colored buttons (red, yellow, green) and the text "Temperature Co...". The main area is light grey. It contains the text "Celsius" above a text input field with a blue border and a vertical cursor. Below this is the text "Fahrenheit" above another empty text input field. At the bottom right are two buttons labeled "Reset" and "Close".

Ce qu'on a :



CONSTRUIRE L'INTERFACE DU TP1

```
@Override
public void start(Stage stage) throws Exception
{
    GridPane root = new GridPane();
    Scene scene = new Scene(root);
    stage.setHeight(300);
    stage.setWidth(300);
    initListener();
    initGUI(root);
    stage.setTitle("Temperature Converter");
    stage.setScene(scene);
    stage.show();
}
```



LES DIFFÉRENTS LAYOUTS



Vbox



TilePane



GridPane



BorderPane



Hbox



FlowPane



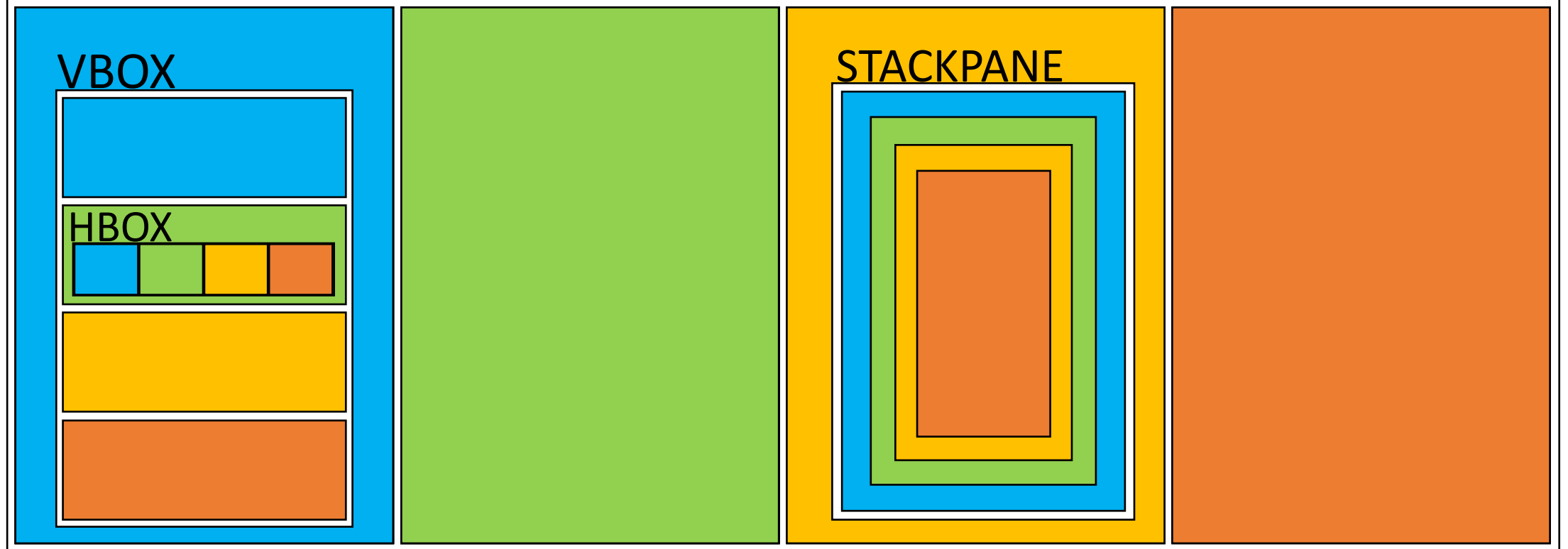
StackPane



AnchorPane

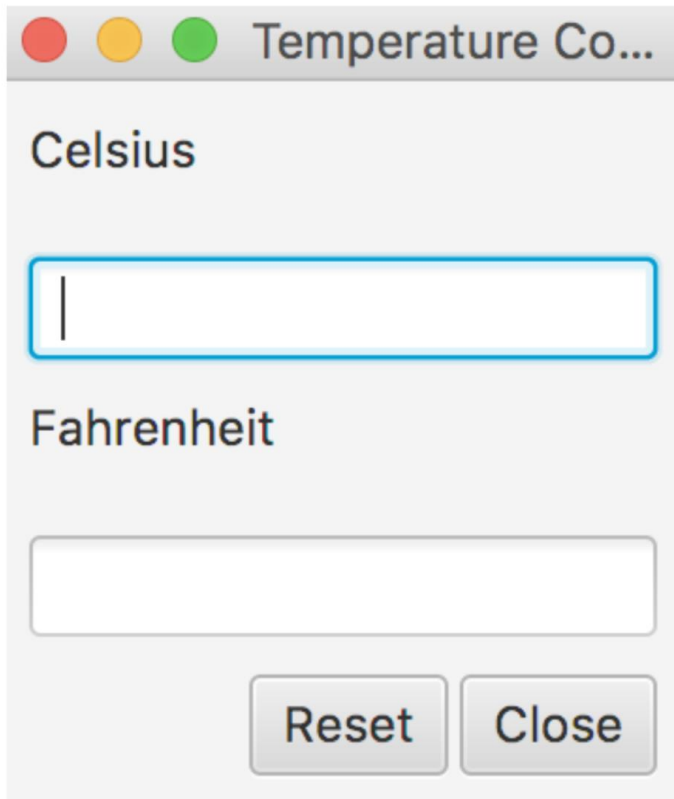
COMBINAISON DE LAYOUTS

HBOX



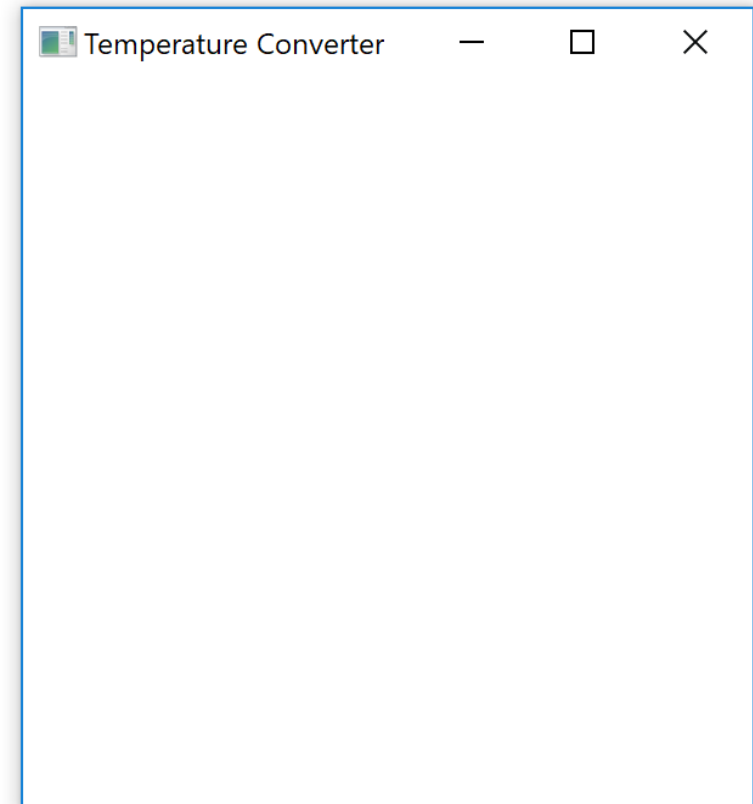
CONSTRUIRE L'INTERFACE DU TP1

Ce qu'on veut :

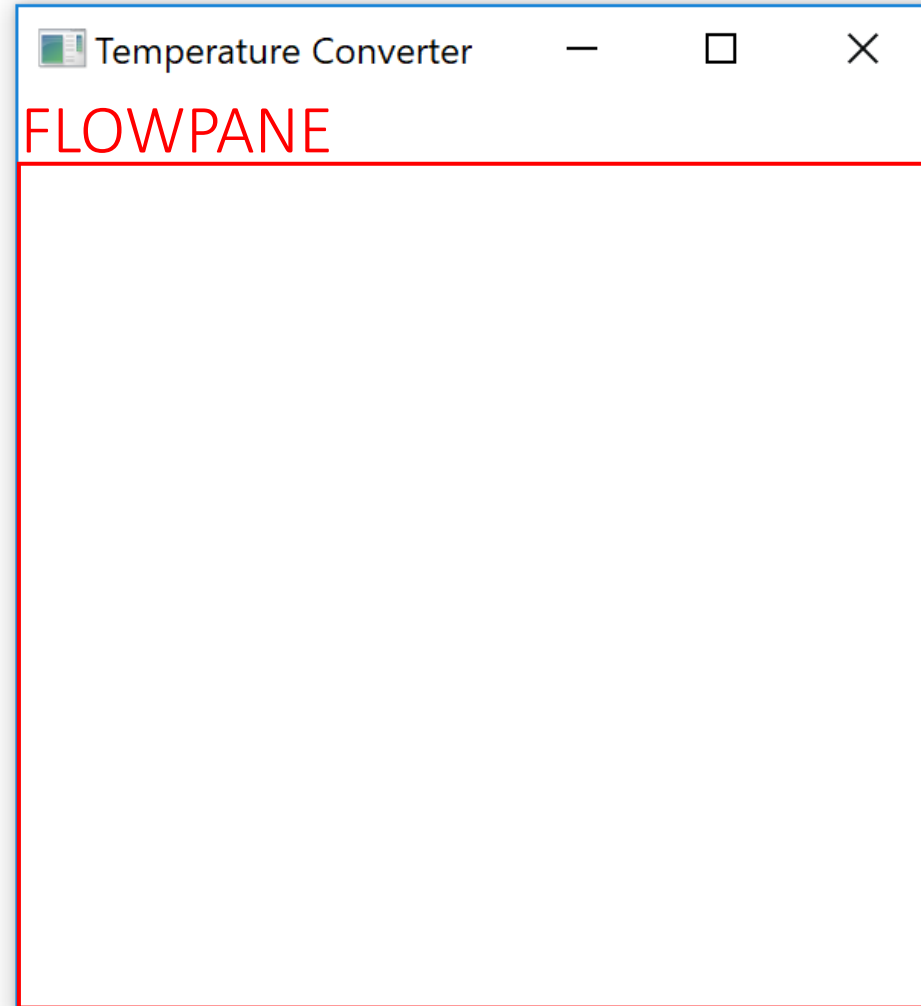


A mockup of the desired user interface for a temperature converter. It features a window titled "Temperature Co..." with standard macOS window controls (red, yellow, green buttons). The interface is divided into two sections: "Celsius" and "Fahrenheit". Under "Celsius", there is a text input field with a vertical cursor. Under "Fahrenheit", there is an empty text input field. At the bottom right, there are two buttons labeled "Reset" and "Close".

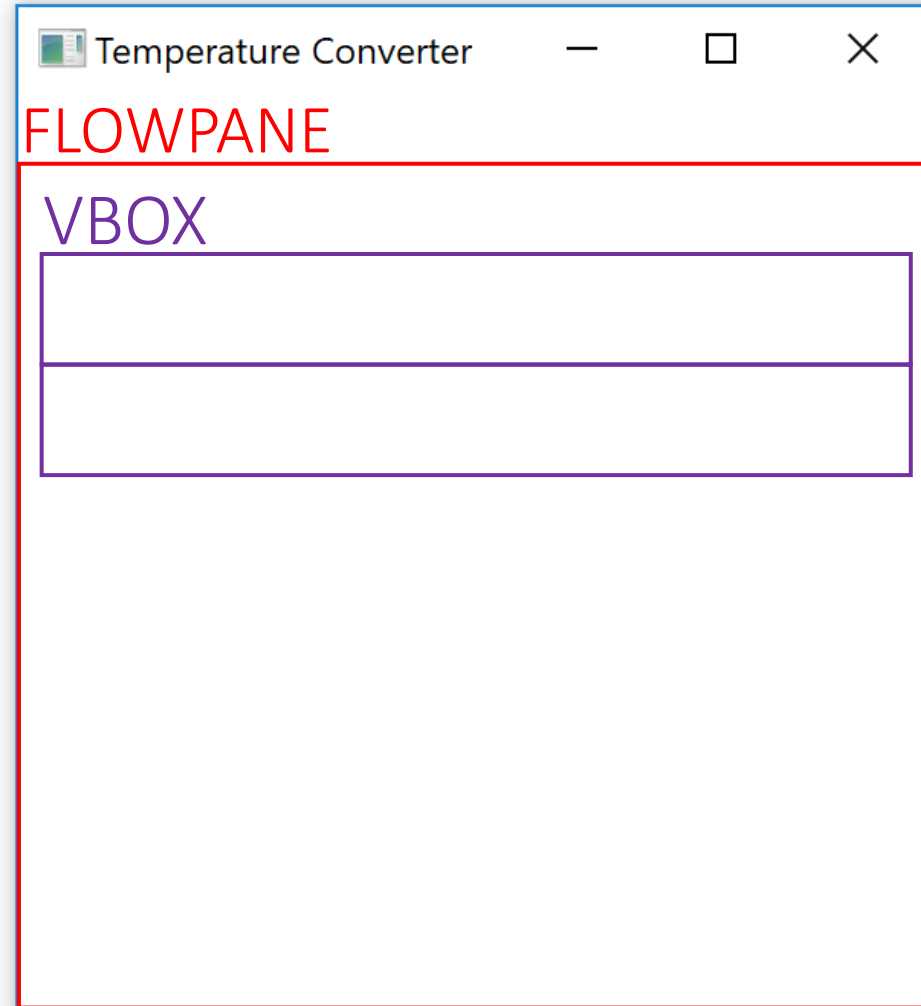
Ce qu'on a :



CONSTRUIRE L'INTERFACE DU TP1



CONSTRUIRE L'INTERFACE DU TP1



The image shows a window titled "Temperature Converter" with standard window controls (minimize, maximize, close). Inside the window, there is a red rectangular box labeled "FLOWPANE" in red text. Within the "FLOWPANE" box, there is a purple rectangular box labeled "VBOX" in purple text. The "VBOX" box contains two empty input fields, one above the other, outlined in purple.

CONSTRUIRE L'INTERFACE DU TP1

Temperature Converter

FLOWPANE

VBOX

VBOX

CONSTRUIRE L'INTERFACE DU TP1

The diagram illustrates the layout of a 'Temperature Converter' application window. The window has a title bar with the text 'Temperature Converter' and standard window controls (minimize, maximize, close). The main content area is organized as follows:

- FLOWPANE:** A red-outlined container at the top of the main area.
- VBOX:** A purple-outlined container below the flowpane, containing two stacked empty rectangular input fields.
- VBOX:** A yellow-outlined container below the first vbox, also containing two stacked empty rectangular input fields.
- HBOX:** A green-outlined container at the bottom, containing two side-by-side empty rectangular input fields.

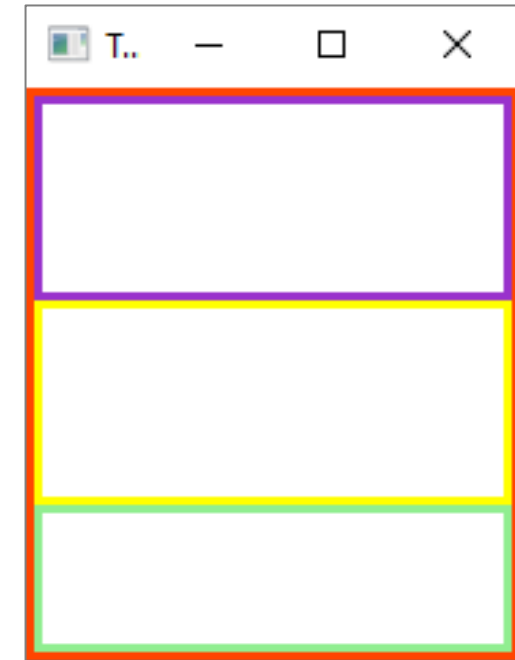
CONSTRUIRE L'INTERFACE DU TP1

```
public void initGUI(Pane root)
{
    root.setStyle("-fx-border-color: orangered; -fx-border-width: 3px;");

    //On crée le Pane de la partie Celsius
    VBox paneC = new VBox();
    paneC.setPadding(new Insets(10, 10, 10, 10));
    paneC.setStyle("-fx-border-color: DARKORCHID; -fx-border-width: 3px;");
    paneC.setMinHeight(75);
    paneC.setMinWidth(175);
    root.getChildren().add(paneC);

    //On crée le Pane de la partie Fahrenheit
    VBox paneF = new VBox();
    paneF.setPadding(new Insets(10, 10, 10, 10));
    paneF.setStyle("-fx-border-color: yellow; -fx-border-width: 3px;");
    paneF.setMinHeight(75);
    paneF.setMinWidth(175);
    root.getChildren().add(paneF);

    //On crée le Pane des boutons
    HBox paneButtons = new HBox();
    paneButtons.setPadding(new Insets(10, 10, 10, 10));
    paneButtons.setSpacing(10);
    paneButtons.setStyle("-fx-border-color: lightgreen; -fx-border-width: 3px;");
    paneButtons.setMinHeight(54);
    paneButtons.setMinWidth(175);
    root.getChildren().add(paneButtons);
}
```



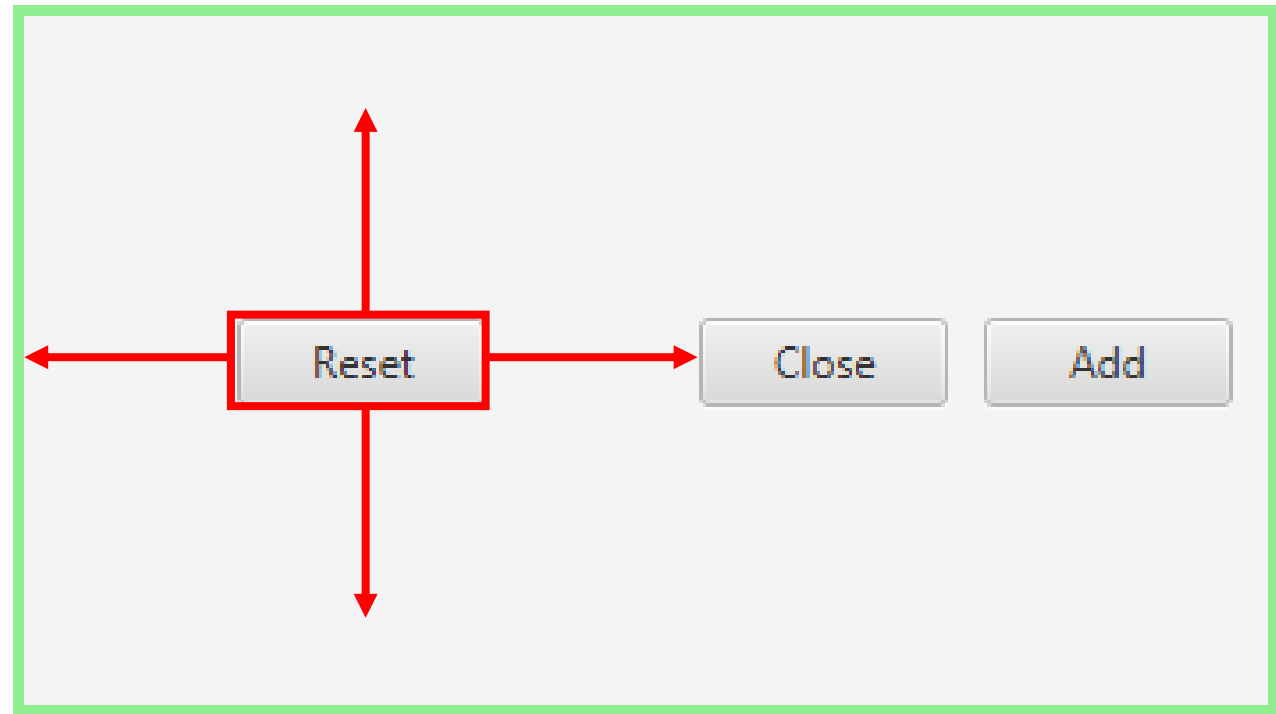
CONSTRUIRE L'INTERFACE DU TP1

Margin

Padding

Spacing

Alignment



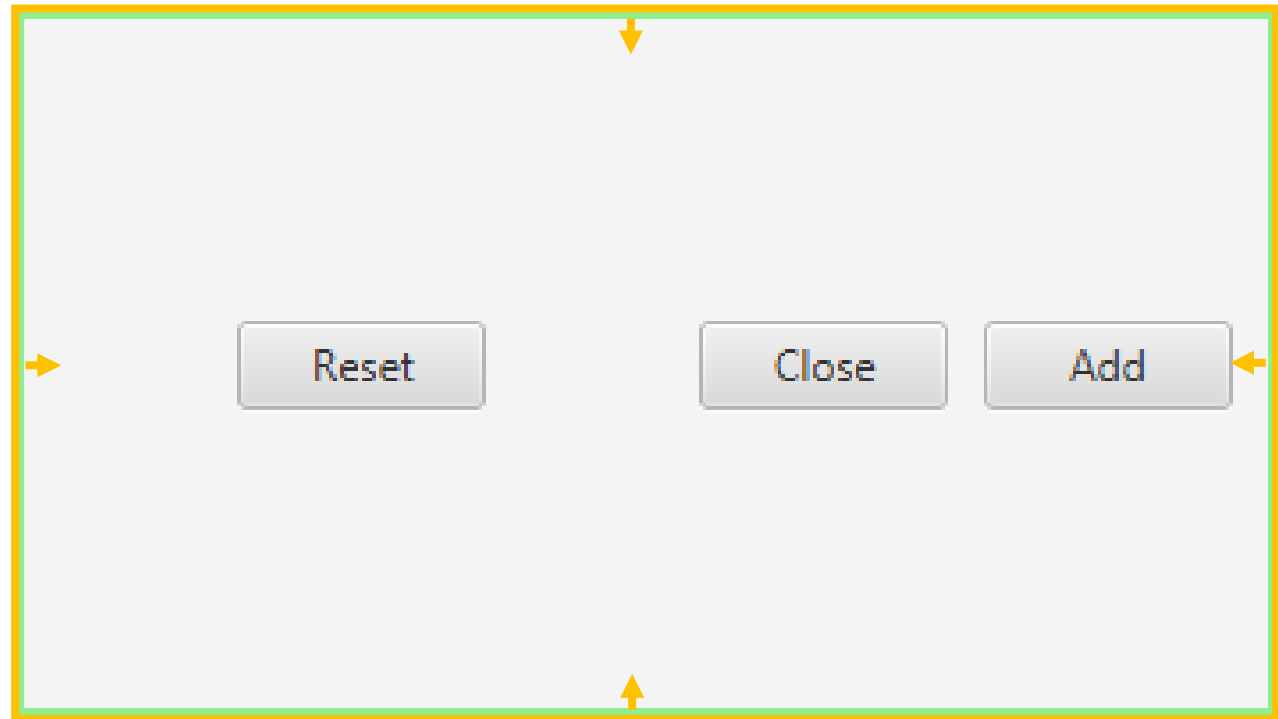
CONSTRUIRE L'INTERFACE DU TP1

Margin

Padding

Spacing

Alignment



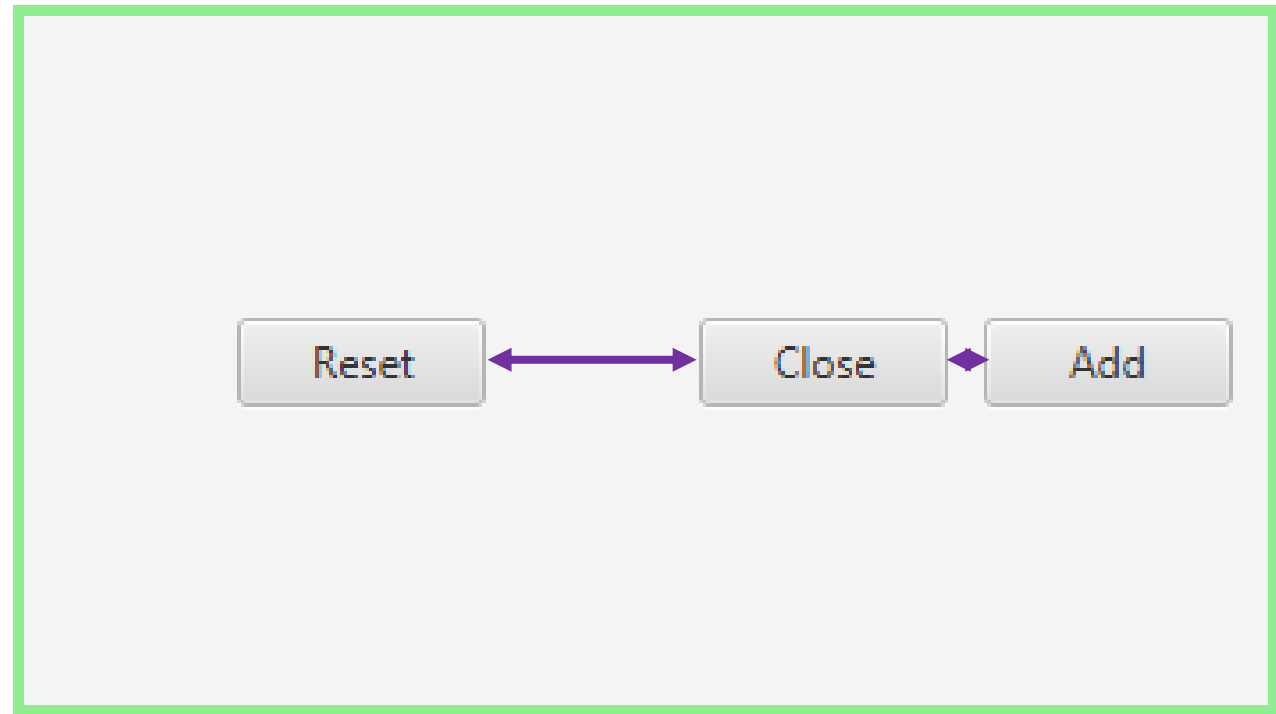
CONSTRUIRE L'INTERFACE DU TP1

Margin

Padding

Spacing

Alignment



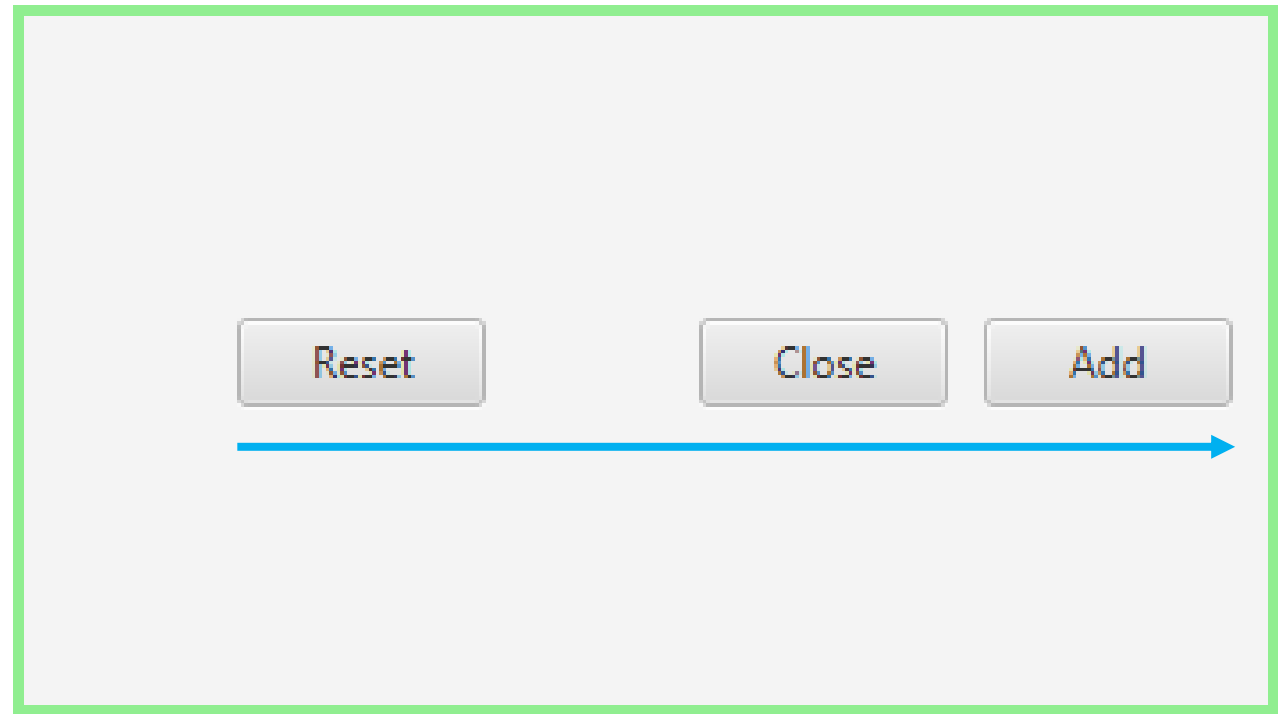
CONSTRUIRE L'INTERFACE DU TP1

Margin

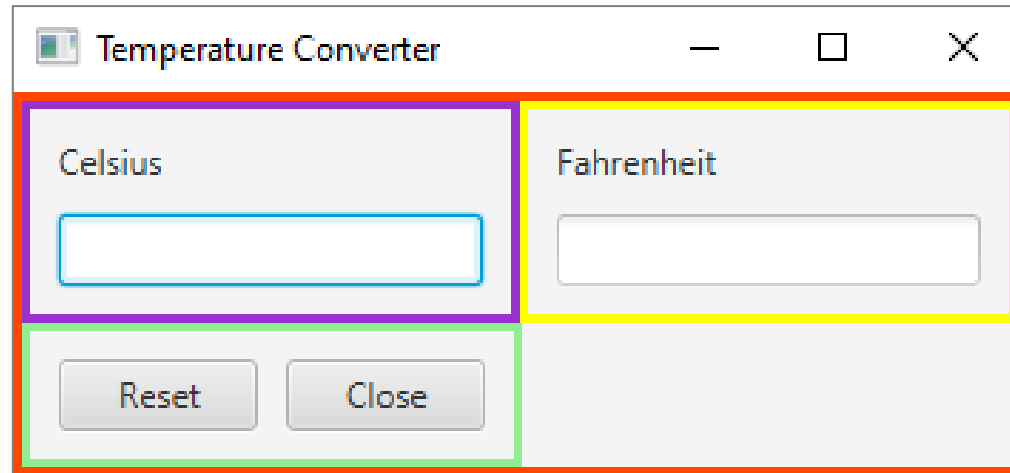
Padding

Spacing

Alignment



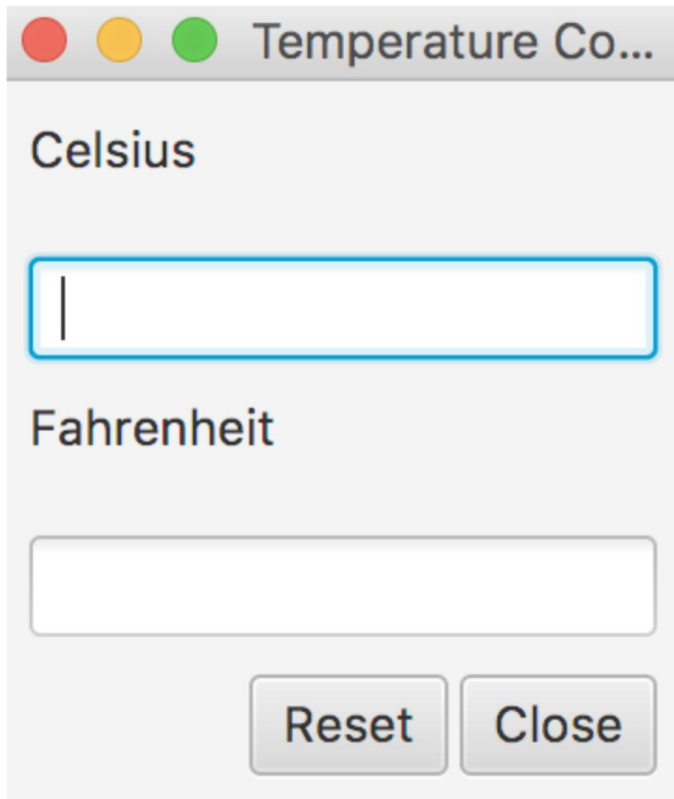
CONSTRUIRE L'INTERFACE DU TP1



```
//On crée le Pane des boutons
HBox paneButtons = new HBox();
paneButtons.setPadding(new Insets(10, 10, 10, 10));
paneButtons.setSpacing(10);
paneButtons.setStyle("-fx-border-color: lightgreen; -fx-border-width: 3px;");
paneButtons.setAlignment(Pos.CENTER_RIGHT);
root.getChildren().add(paneButtons);
```

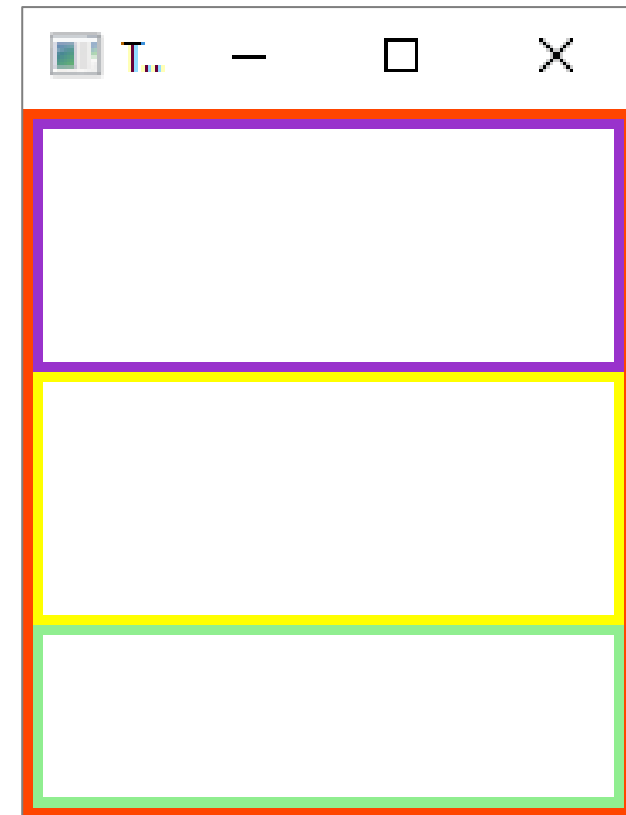
CONSTRUIRE L'INTERFACE DU TP1

Ce qu'on veut :



A mockup of a temperature conversion window titled "Temperature Co...". It features two input fields: the top one is labeled "Celsius" and has a blue border with a cursor; the bottom one is labeled "Fahrenheit" and has a grey border. At the bottom are "Reset" and "Close" buttons.

Ce qu'on a :



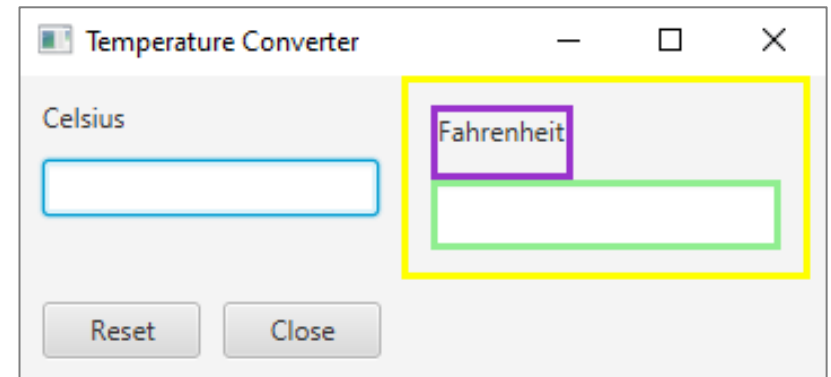
A mockup of a temperature conversion window titled "T...". It contains three empty rectangular boxes stacked vertically, each outlined with a different color: the top box has a purple border, the middle box has a yellow border, and the bottom box has a green border. The entire stack is enclosed in a red border.

CONSTRUIRE L'INTERFACE DU TP1

```
//On crée le Pane de la partie Fahrenheit
VBox paneF = new VBox();
paneF.setPadding(new Insets(10, 10, 10, 10));
paneF.setStyle("-fx-border-color: yellow; -fx-border-width: 3px;");
root.getChildren().add(paneF);
```

```
//On crée le label de la partie Fahrenheit
labelF = new Label("Fahrenheit");
labelF.setPadding(new Insets(0, 0, 10, 0));
labelF.setStyle("-fx-border-color: DARKORCHID; -fx-border-width: 3px;");
paneF.getChildren().add(labelF);
```

```
//On crée le TextField de la partie Fahrenheit
textFieldF = new TextField("");
textFieldF.setStyle("-fx-border-color: lightgreen; -fx-border-width: 3px;");
paneF.getChildren().add(textFieldF);
textFieldF.setOnKeyPressed(textFieldFListener);
textFieldF.setTextFormatter(textFormatterF);
```



CONSTRUIRE L'INTERFACE DU TP1

Événements fournis par l'API de JavaFX :

ActionEvent pour une action simple sur l'interface (clic sur un bouton par exemple)

MouseEvent pour les déplacements, survols et clics de la souris

ScrollEvent pour les défilements à l'aide de la molette de la souris, du trackpad, d'un écran tactile, ...

TouchEvent pour les appuis sur un écran tactile

Etc.

Démonstration