JavaFX –Notions de Base –

JavaFX vs Swing et AWT

- Au debut de Java, il y-avait la bibliotheque graphique ***AWT*** (***Abstract Windows Toolkit)*.**

AWT dependait de la plateforme de developpement, elle fut abandonee

- AWT a ete remplacee par la bibliotheque des composants ***SWING*** :plus robust plus flexible et independante de la plateforme**.**
- Avec le lancement de Java 8, Swing est remplacee par une nouvelle bibliotheque :***JavaFX:*** encore plus flexible et orientee developpement web (rich internet applications)

Structure de base de JavaFX

- Toujours étendre la classe Application
- Réécrire la méthode ***start***(Stage)
- Utiliser les classes: ***Stage, Scene,*** et ***Node***

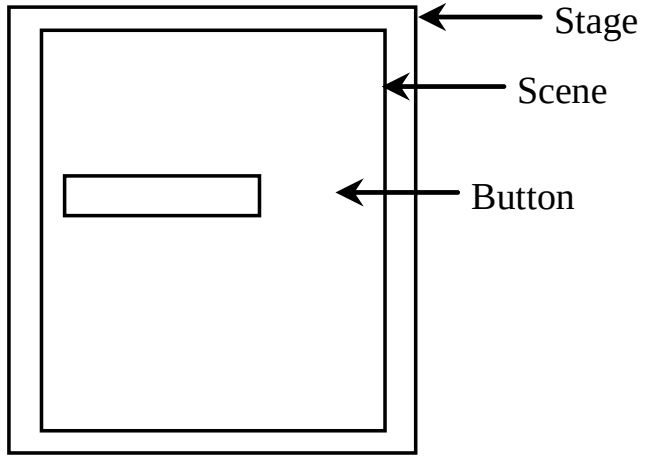
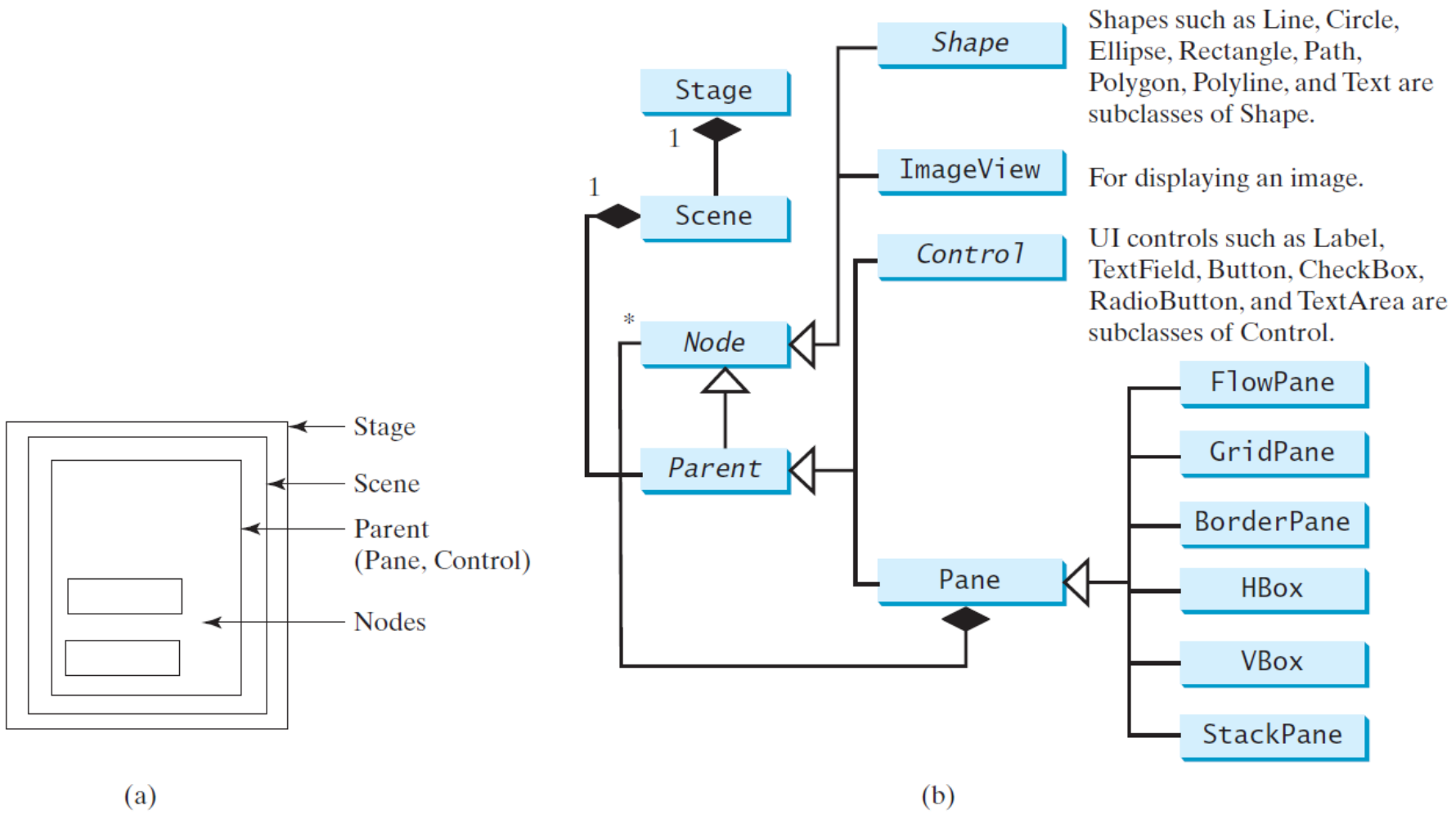
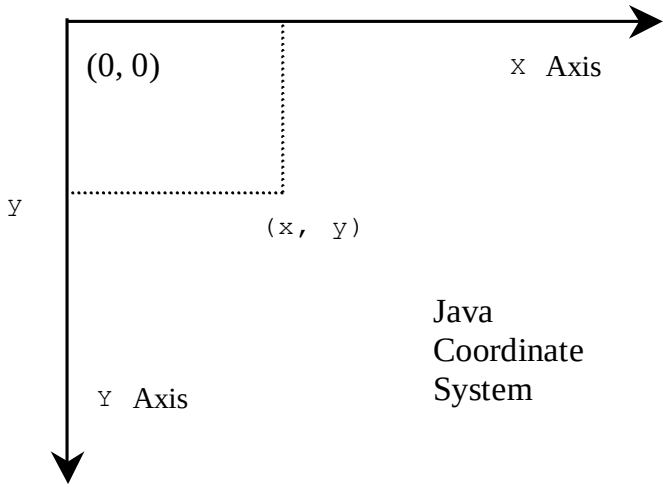


Diagramme des classes utilisées



Système de coordonnées



Java
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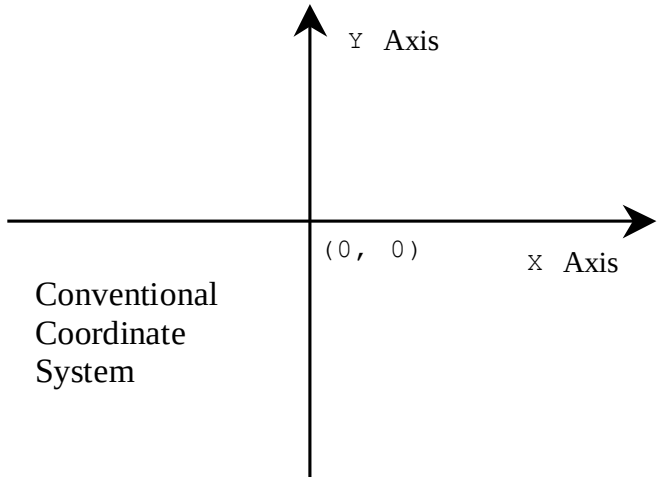

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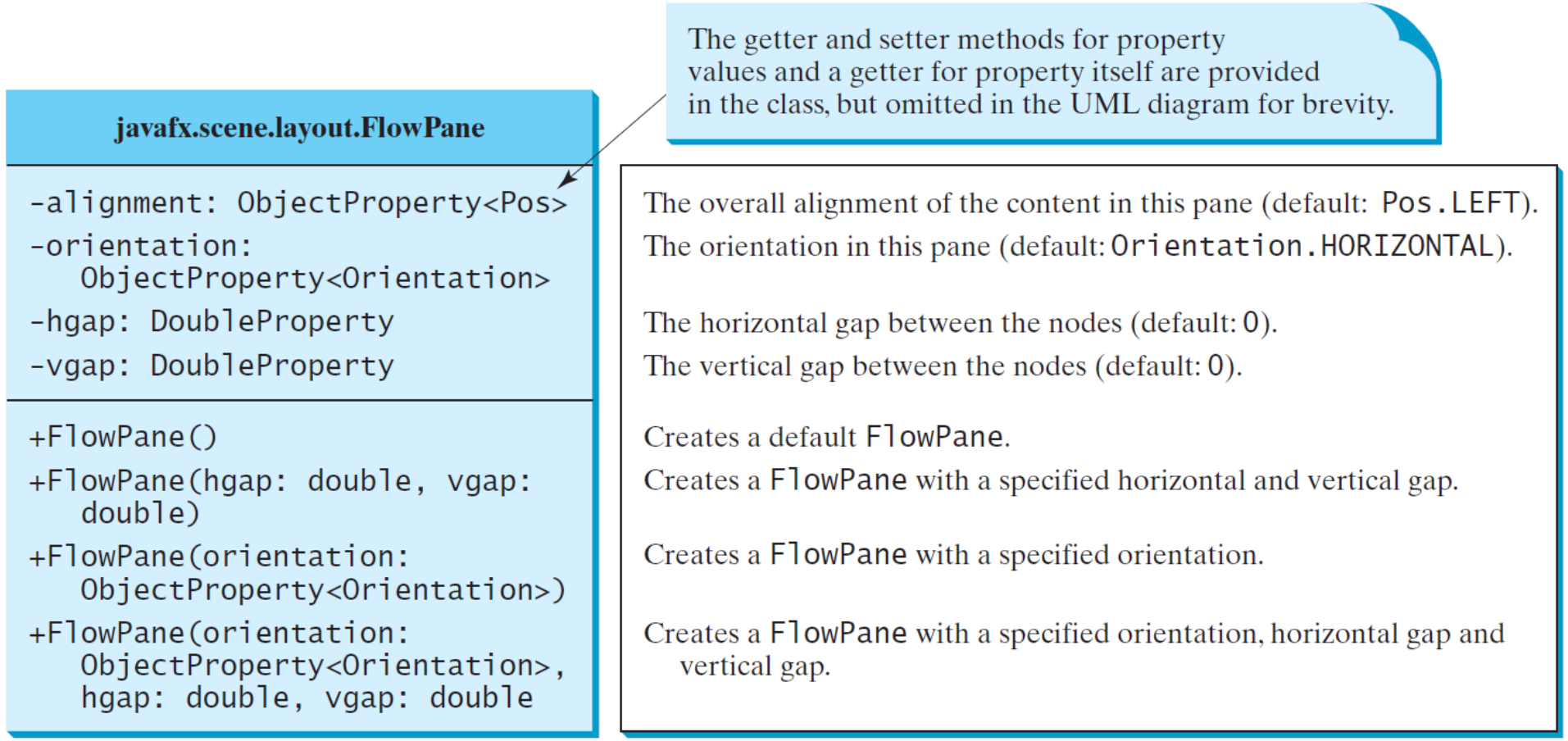
Panneaux d'affichage: Layout Panes

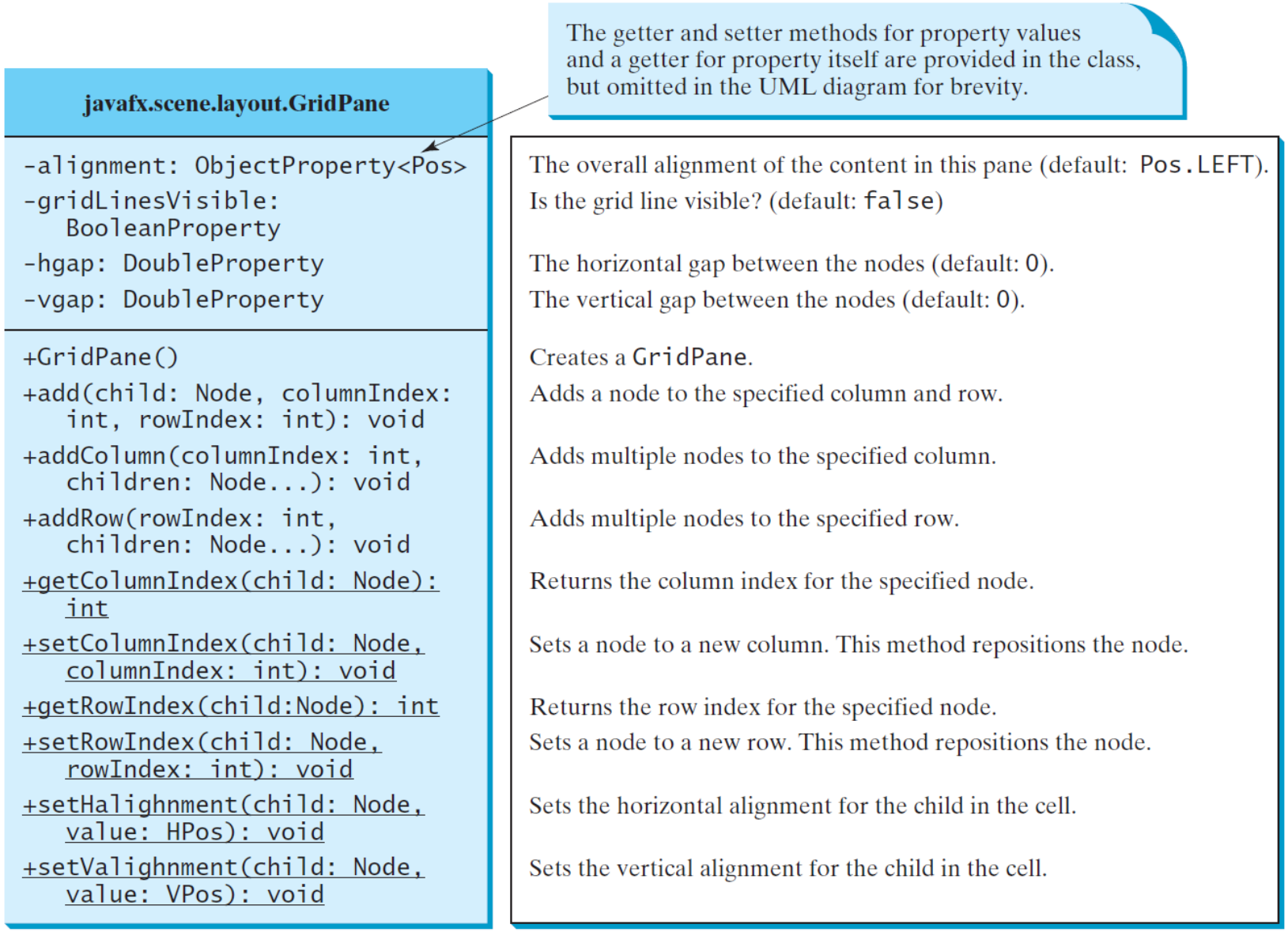
JavaFX fournit plusieurs types de panneaux (panes) pour organiser les nodes dans un container.

Class	*Description*
`Pane`	Base class for layout panes. It contains the `getChildren()` method for returning a list of nodes in the pane.
`StackPane`	Places the nodes on top of each other in the center of the pane.
`FlowPane`	Places the nodes row-by-row horizontally or column-by-column vertically.
`GridPane`	Places the nodes in the cells in a two-dimensional grid.
`BorderPane`	Places the nodes in the top, right, bottom, left, and center regions.
`HBox`	Places the nodes in a single row.
`VBox`	Places the nodes in a single column.

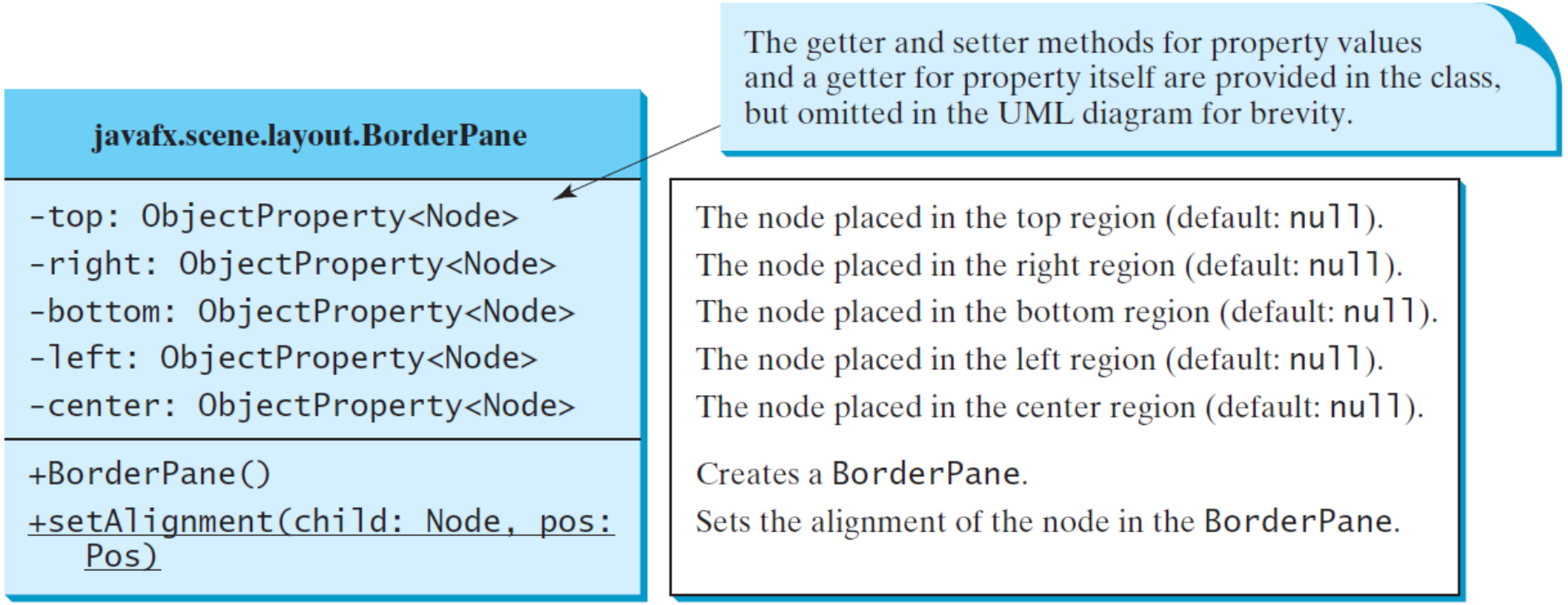
FlowPane


The getter and setter methods for property values and a getter for property itself are provided in the class, but omitted in the UML diagram for brevity.
javafx.scene.layout.FlowPane
-alignment: ObjectProperty<Pos>
-orientation: ObjectProperty<Orientation>
-hgap: DoubleProperty
-vgap: DoubleProperty
+FlowPane()
+FlowPane(hgap: double, vgap: double)
+FlowPane(orientation: ObjectProperty<Orientation>)
+FlowPane(orientation: ObjectProperty<Orientation>, hgap: double, vgap: double
The overall alignment of the content in this pane (default: Pos.LEFT).
The orientation in this pane (default: Orientation.HORIZONTAL).
The horizontal gap between the nodes (default: 0).
The vertical gap between the nodes (default: 0).
Creates a default FlowPane.
Creates a FlowPane with a specified horizontal and vertical gap.
Creates a FlowPane with a specified orientation.
Creates a FlowPane with a specified orientation, horizontal gap and vertical gap.

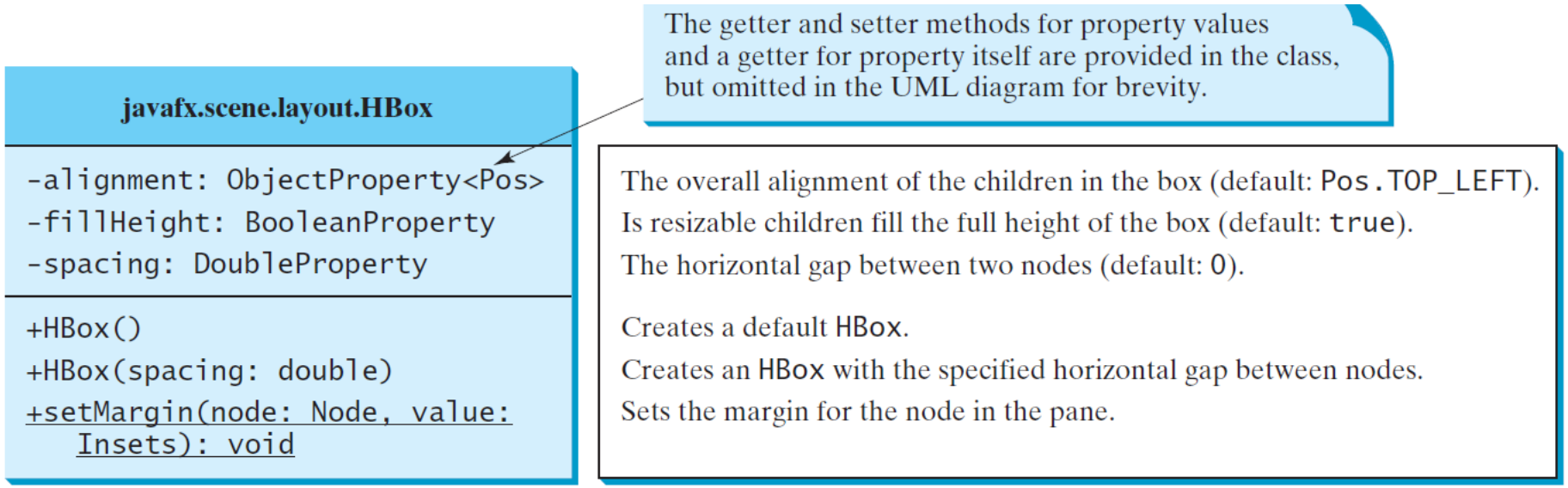
GridPane


javafx.scene.layout.GridPane
-alignment: ObjectProperty<Pos>
-gridLinesVisible: BooleanProperty
-hgap: DoubleProperty
-vgap: DoubleProperty
+GridPane()
+add(child: Node, columnIndex: int, rowIndex: int): void
+addColumn(columnIndex: int, children: Node...): void
+addRow(rowIndex: int, children: Node...): void
+getColumnIndex(child: Node): int
+setColumnIndex(child: Node, columnIndex: int): void
+getRowIndex(child:Node): int
+setRowIndex(child: Node, rowIndex: int): void
+setHalighnment(child: Node, value: HPos): void
+setValighnment(child: Node, value: VPos): void
The getter and setter methods for property values and a getter for property itself are provided in the class, but omitted in the UML diagram for brevity.
The overall alignment of the content in this pane (default: Pos.LEFT).
Is the grid line visible? (default: false)
The horizontal gap between the nodes (default: 0).
The vertical gap between the nodes (default: 0).
Creates a GridPane.
Adds a node to the specified column and row.
Adds multiple nodes to the specified column.
Adds multiple nodes to the specified row.
Returns the column index for the specified node.
Sets a node to a new column. This method repositions the node.
Returns the row index for the specified node.
Sets a node to a new row. This method repositions the node.
Sets the horizontal alignment for the child in the cell.
Sets the vertical alignment for the child in the cell.

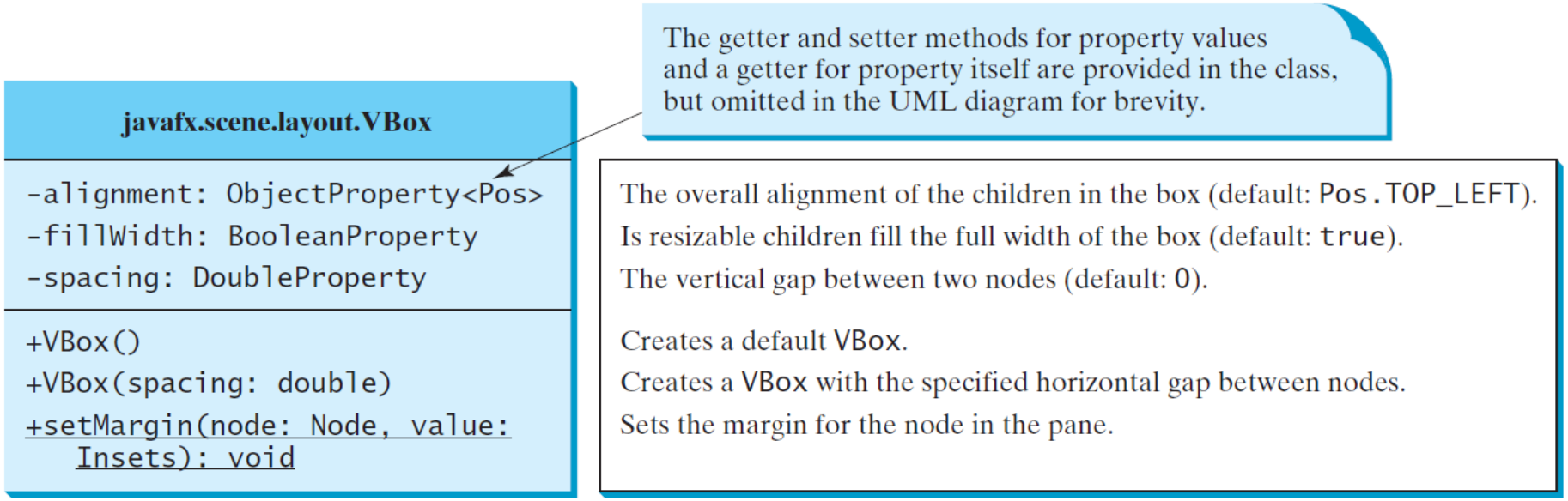
BorderPane


javafx.scene.layout.BorderPane
-top: ObjectProperty<Node>
-right: ObjectProperty<Node>
-bottom: ObjectProperty<Node>
-left: ObjectProperty<Node>
-center: ObjectProperty<Node>
+BorderPane()
+setAlignment(child: Node, pos: Pos)
The getter and setter methods for property values and a getter for property itself are provided in the class, but omitted in the UML diagram for brevity.
The node placed in the top region (default: null).
The node placed in the right region (default: null).
The node placed in the bottom region (default: null).
The node placed in the left region (default: null).
The node placed in the center region (default: null).
Creates a BorderPane.
Sets the alignment of the node in the BorderPane.

HBox


javafx.scene.layout.HBox
-alignment: ObjectProperty<Pos>
-fillHeight: BooleanProperty
-spacing: DoubleProperty
+HBox()
+HBox(spacing: double)
+setMargin(node: Node, value: Insets): void
The getter and setter methods for property values and a getter for property itself are provided in the class, but omitted in the UML diagram for brevity.
The overall alignment of the children in the box (default: Pos.TOP_LEFT).
Is resizable children fill the full height of the box (default: true).
The horizontal gap between two nodes (default: 0).
Creates a default HBox.
Creates an HBox with the specified horizontal gap between nodes.
Sets the margin for the node in the pane.

VBox


javafx.scene.layout.VBox
-alignment: ObjectProperty<Pos>
-fillWidth: BooleanProperty
-spacing: DoubleProperty
+VBox()
+VBox(spacing: double)
+setMargin(node: Node, value: Insets): void
The getter and setter methods for property values and a getter for property itself are provided in the class, but omitted in the UML diagram for brevity.
The overall alignment of the children in the box (default: Pos.TOP_LEFT).
Is resizable children fill the full width of the box (default: true).
The vertical gap between two nodes (default: 0).
Creates a default VBox.
Creates a VBox with the specified horizontal gap between nodes.
Sets the margin for the node in the pane.