FLUTTER TUTORIALS

BY: **TECMAN**

TECMAN Lesson 4

BUILDING LAYOUT IN FLUTTER

What's it?

- Widgets are classes used to build UIs.
- Widgets are used for both layout and UI elements.
- Compose simple widgets to build complex widgets.

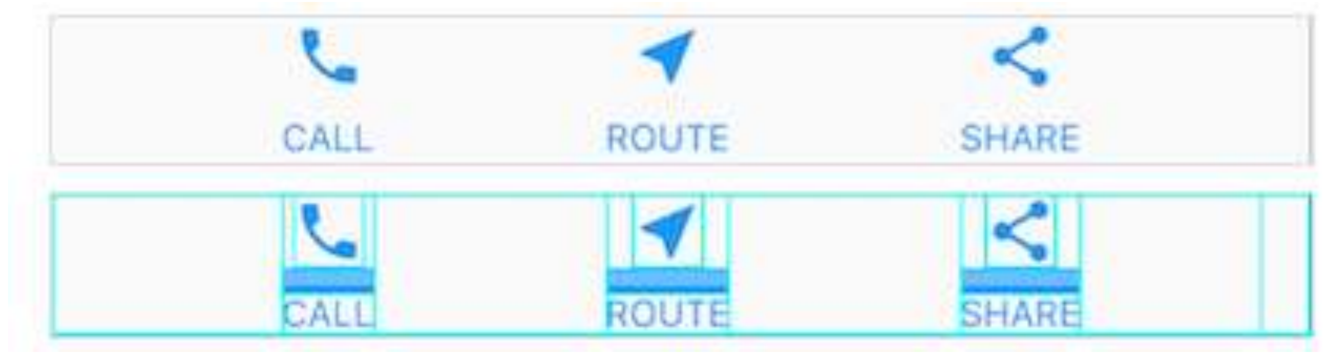
BUILDING LAYOUT IN FLUTTER

The core of Flutter’s layout mechanism is widgets. In Flutter, almost everything is a widget—even layout models are widgets. The images, icons, and text that you see in a Flutter app are all widgets. But things you don’t see are also widgets, such as the rows, columns, and grids that arrange, constrain, and align the visible widgets.

BUILDING LAYOUT IN FLUTTER

You create a layout by composing widgets to build more complex widgets. For example, the first screenshot below shows 3 icons with a label under each one:

BUILDING LAYOUT IN FLUTTER



The second screenshot displays the visual layout, showing a row of 3 columns where each column contains an icon and a label.

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BUILDING LAYOUT IN FLUTTER

Here’s a diagram of the widget tree for this UI:

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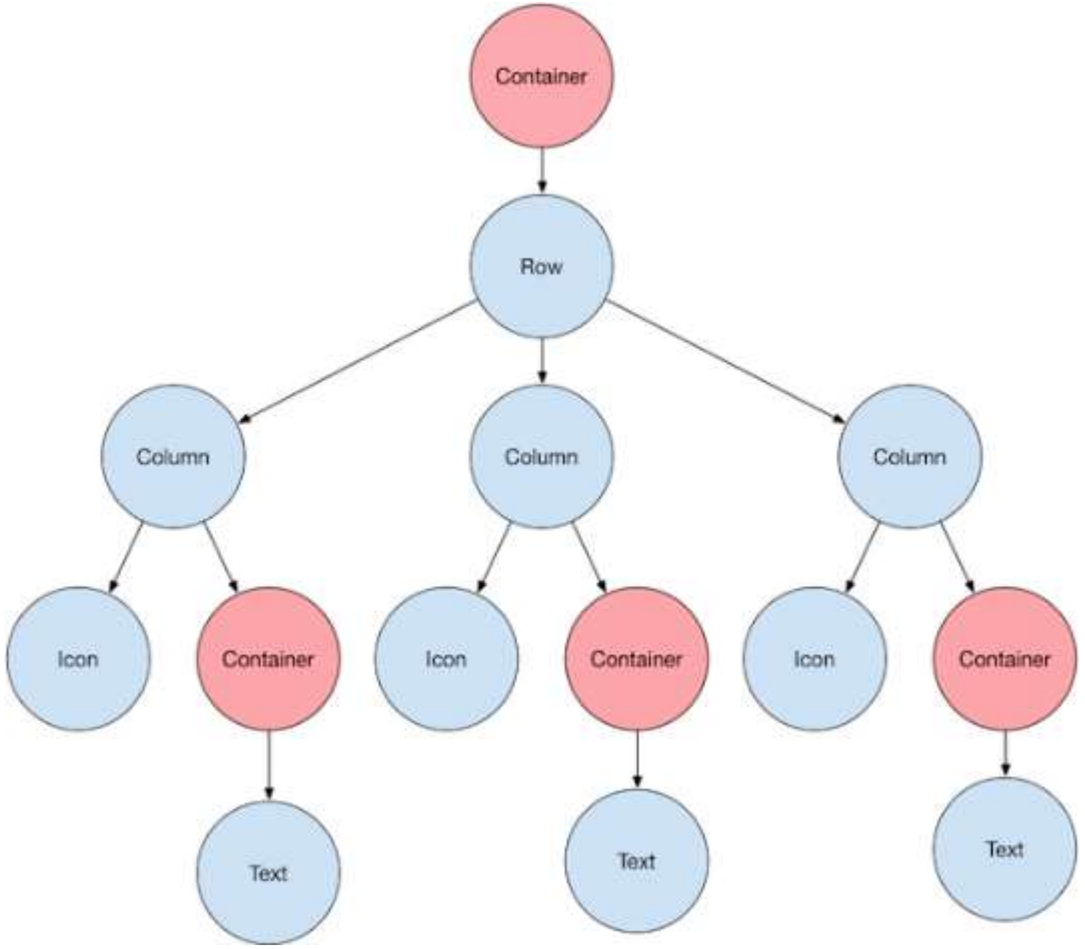
BUILDING LAYOUT IN FLUTTER



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BUILDING LAYOUT IN FLUTTER

Most of this should look as you might expect, but you might be wondering about the containers (shown in pink). Container is a widget class that allows you to customize its child widget. Use a Container when you want to add padding, margins, borders, or background color, to name some of its capabilities.

In this example, each Text widget is placed in a Container to add margins. The entire Row is also placed in a Container to add padding around the row.

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BUILDING LAYOUT IN FLUTTER

The rest of the UI in this example is controlled by properties. Set an Icon’s color using its color property. Use the Text.style property to set the font, its color, weight, and so on. Columns and rows have properties that allow you to specify how their children are aligned vertically or horizontally, and how much space the children should occupy

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Lay out a widget

How do you layout a single widget in Flutter? This section shows you how to create and display a simple widget. It also shows the entire code for a simple Hello World app.

In Flutter, it takes only a few steps to put text, an icon, or an image on the screen.

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Lay out a widget

1. Select a layout widget

- Choose from a variety of layout widgets based on how you want to align or constrain the visible widget, as these characteristics are typically passed on to the contained widget.
- This example uses Center which centers its content horizontally and vertically.

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Lay out a widget

2. Create a visible widget

For example, create a Text widget:

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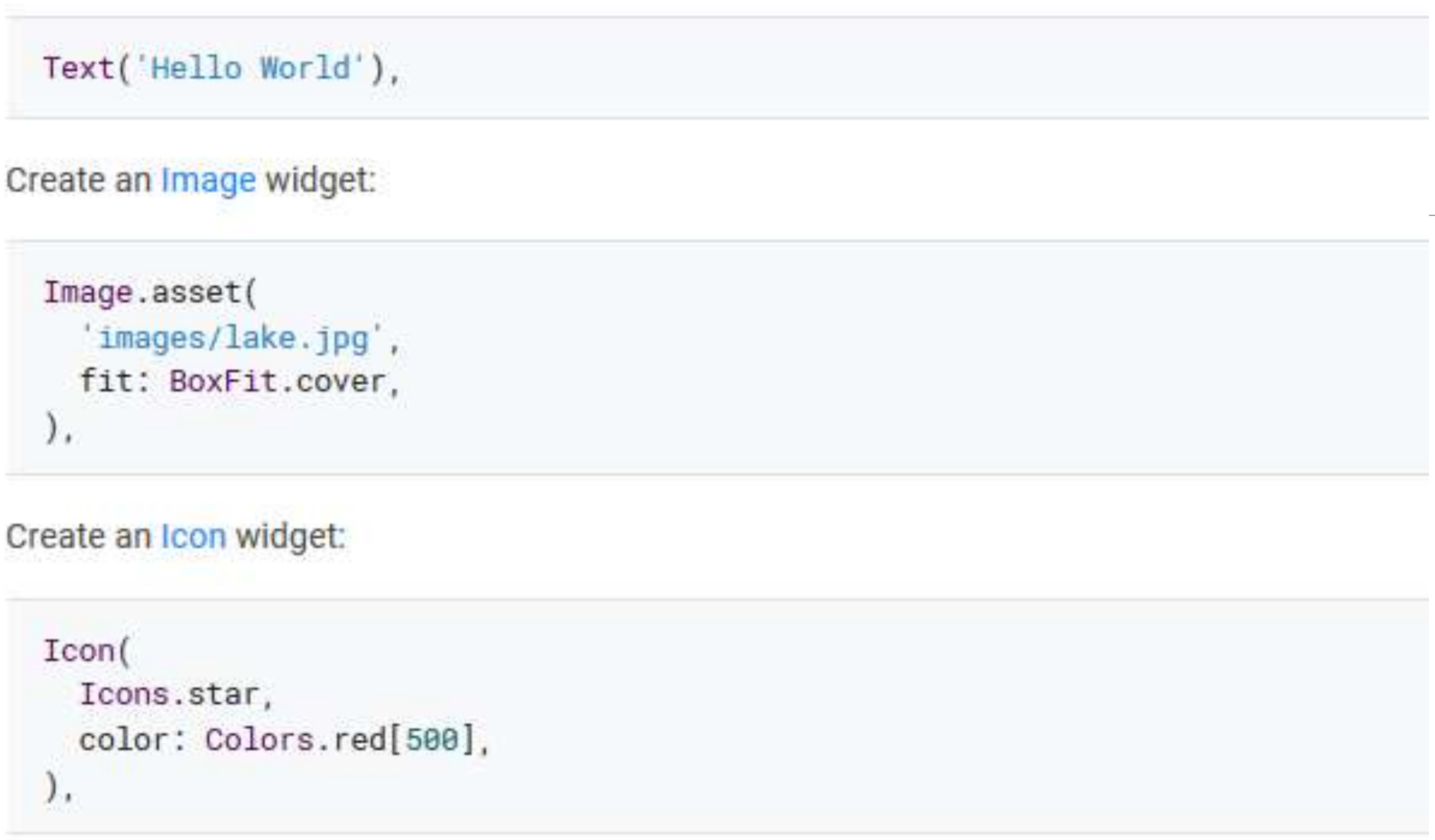

```
Text('Hello World'),
```

Create an Image widget:

```
Image.asset(
  'images/lake.jpg',
  fit: BoxFit.cover,
),
```

Create an Icon widget:

```
Icon(
  Icons.star,
  color: Colors.red[500],
),
```

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Lay out a widget

3. Add the visible widget to the layout widget

All layout widgets have either of the following:

- A child property if they take a single child – for example, Center or Container
- A children property if they take a list of widgets – for example, Row, Column, ListView, or Stack.

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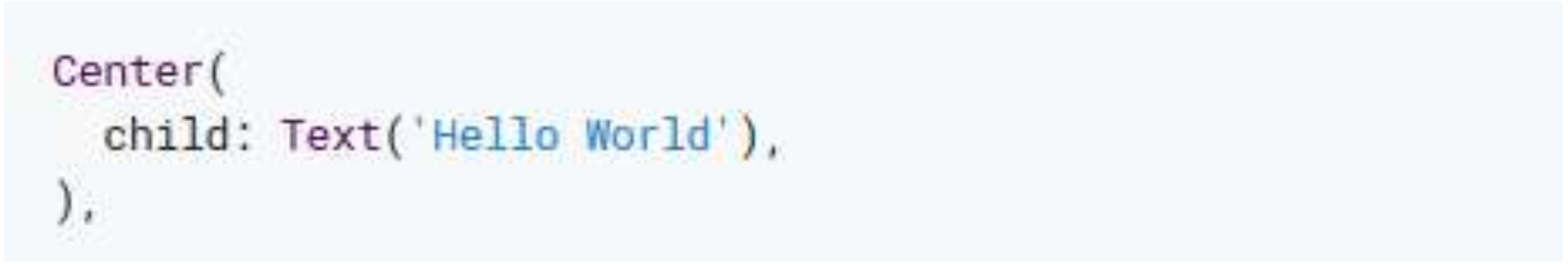
Lay out a widget

Add the Text widget to the Center widget:



```
Center(
  child: Text('Hello World'),
),
```

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Lay out a widget

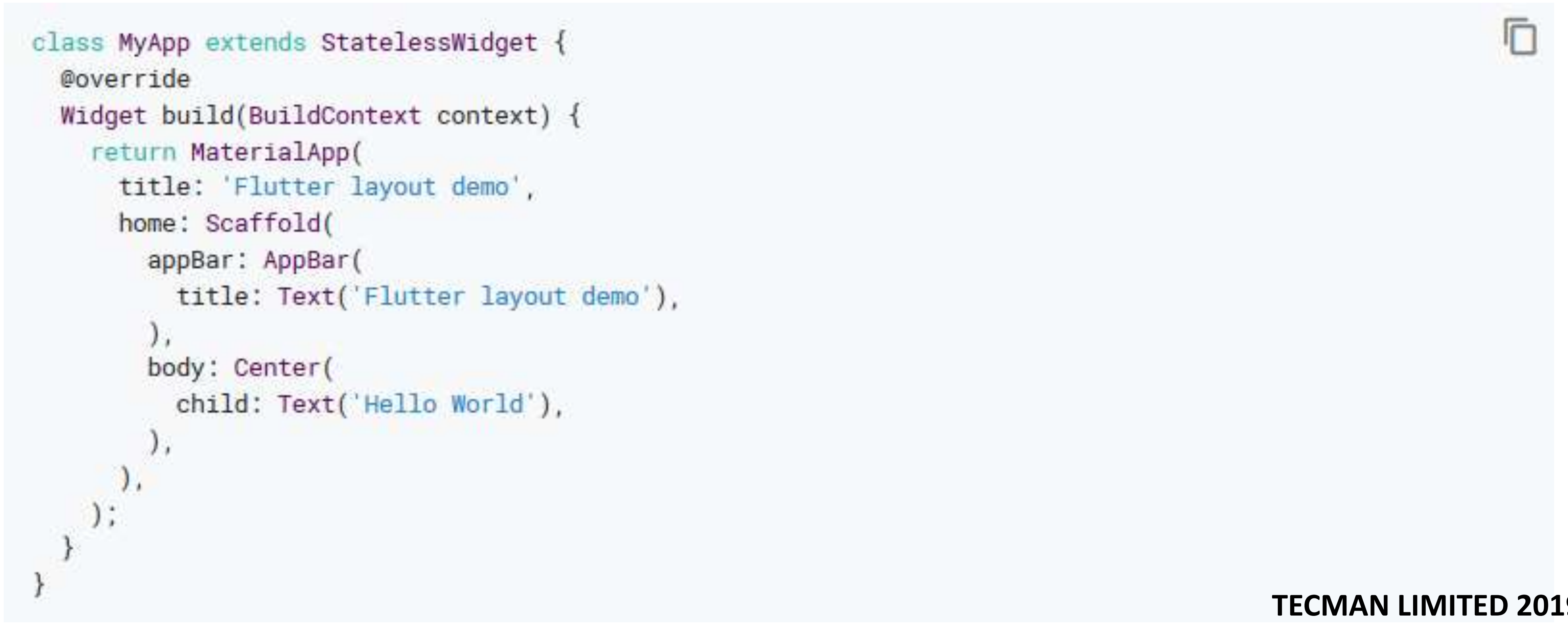
4. Add the layout widget to the page

A Flutter app is itself a widget, and most widgets have a build() method. Instantiating and returning a widget in the app's build() method displays the widget.

Material apps

For a Material app, you can use a Scaffold widget; it provides a default banner, background color, and has API for adding drawers, snack bars, and bottom sheets. Then you can add the Center widget directly to the body property for the home page.

Lay out a widget



```
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter layout demo',
      home: Scaffold(
        appBar: AppBar(
          title: Text('Flutter layout demo'),
        ),
        body: Center(
          child: Text('Hello World'),
        ),
      ),
    );
  }
}
```

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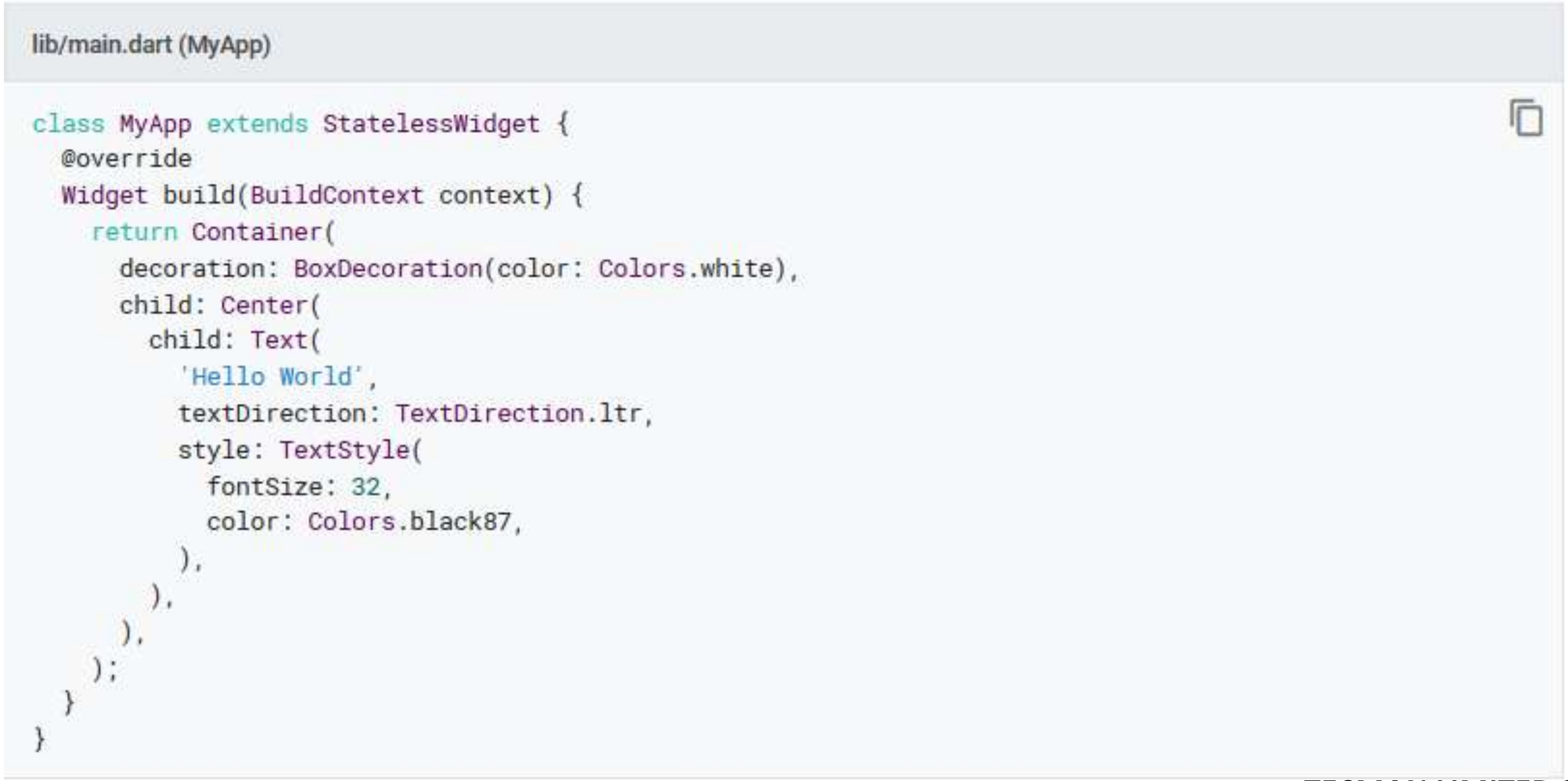
Lay out a widget

Non-Material apps

For a non-Material app, you can add the Center widget to the app’s build() method:


lib/main.dart (MyApp)

```dart
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Container(
      decoration: BoxDecoration(color: Colors.white),
      child: Center(
        child: Text(
          'Hello World',
          textDirection: TextDirection.ltr,
          style: TextStyle(
            fontSize: 32,
            color: Colors.black87,
          ),
        ),
      ),
    );
  }
}
```

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Lay out a widget

By default a non-Material app doesn’t include an AppBar, title, or background color. If you want these features in a non-Material app, you have to build them yourself. This app changes the background color to white and the text to dark grey to mimic a Material app.

That’s it! When you run the app, you should see *Hello World*.

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Lay out a widget

Check the git link for sample source codes

Material app

Non-Material app

Lay out multiple widgets vertically and horizontally

One of the most common layout patterns is to arrange widgets vertically or horizontally. You can use a Row widget to arrange widgets horizontally, and a Column widget to arrange widgets vertically.

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Lay out multiple widgets vertically and horizontally

Overview:

- Row and Column are two of the most commonly used layout patterns.
- Row and Column each take a list of child widgets.
- A child widget can itself be a Row, Column, or other complex widget.
- You can specify how a Row or Column aligns its children, both vertically and horizontally.
- You can stretch or constrain specific child widgets.
- You can specify how child widgets use the Row’s or Column’s available space.

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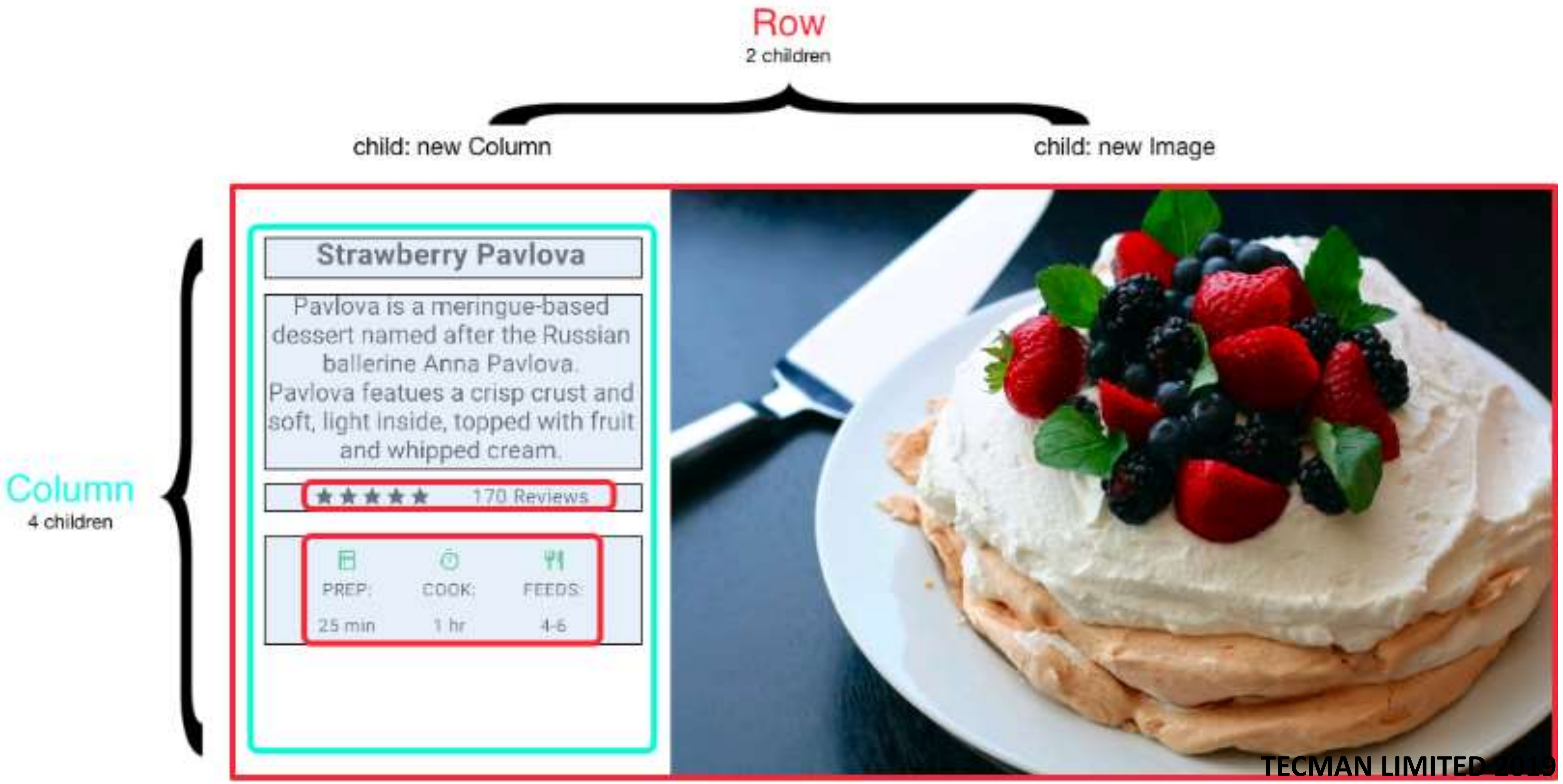
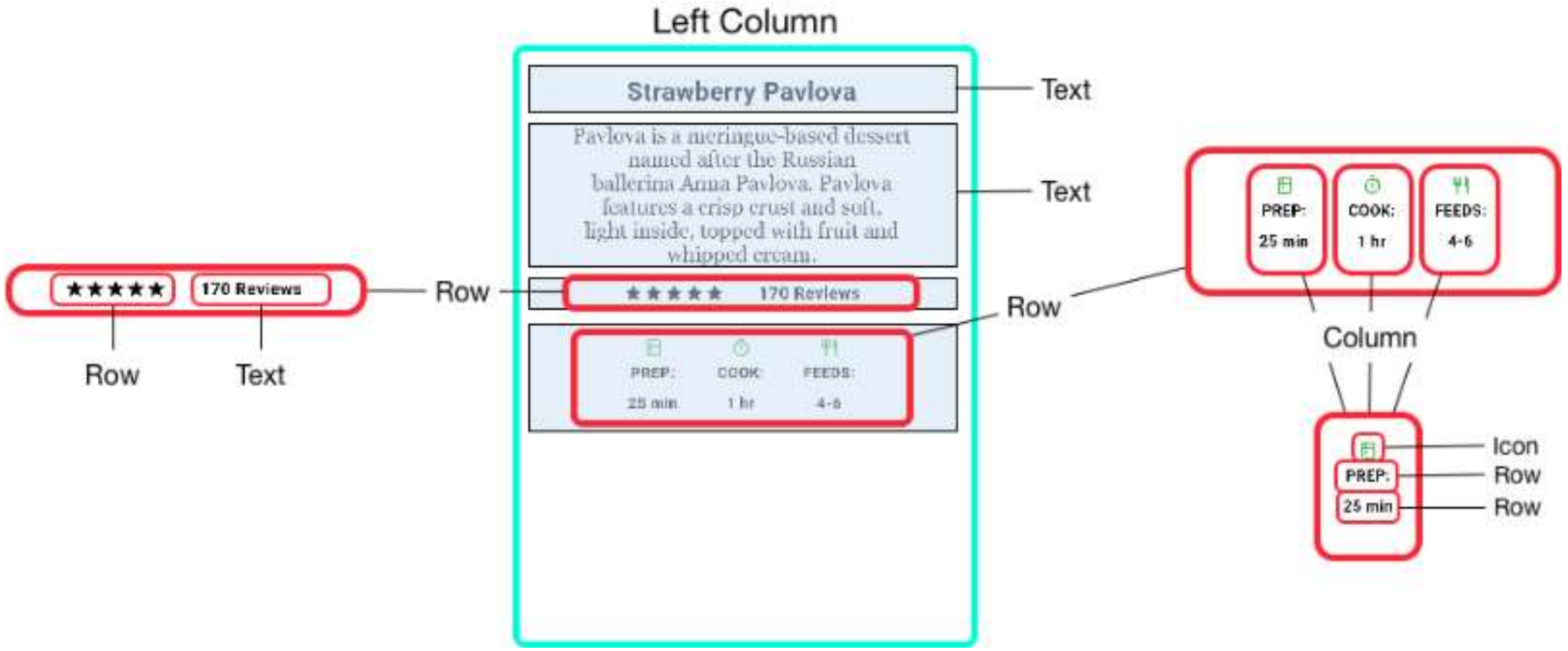
Lay out multiple widgets vertically and horizontally

This layout is organized as a Row. The row contains two children: a column on the left, and an image on the right:


Row
2 children
child: new Column
child: new Image
Column
4 children
Strawberry Pavlova
Pavlova is a meringue-based dessert named after the Russian ballerine Anna Pavlova. Pavlova featues a crisp crust and soft, light inside, topped with fruit and whipped cream.
★★★★★ 170 Reviews
PREP:
25 min
COOK:
1 hr
FEEDS:
4-6

Lay out multiple widgets vertically and horizontally

The left column’s widget tree nests rows and columns.


Left Column
Strawberry Pavlova
Text
Pavlova is a meringue-based dessert named after the Russian ballerina Anna Pavlova. Pavlova features a crisp crust and soft, light inside, topped with fruit and whipped cream.
Text
★★★★★ 170 Reviews
Row
Row
Text
Row
PREP: 25 min
COOK: 1 hr
FEEDS: 4-6
Row
Column
Icon
Row
Row

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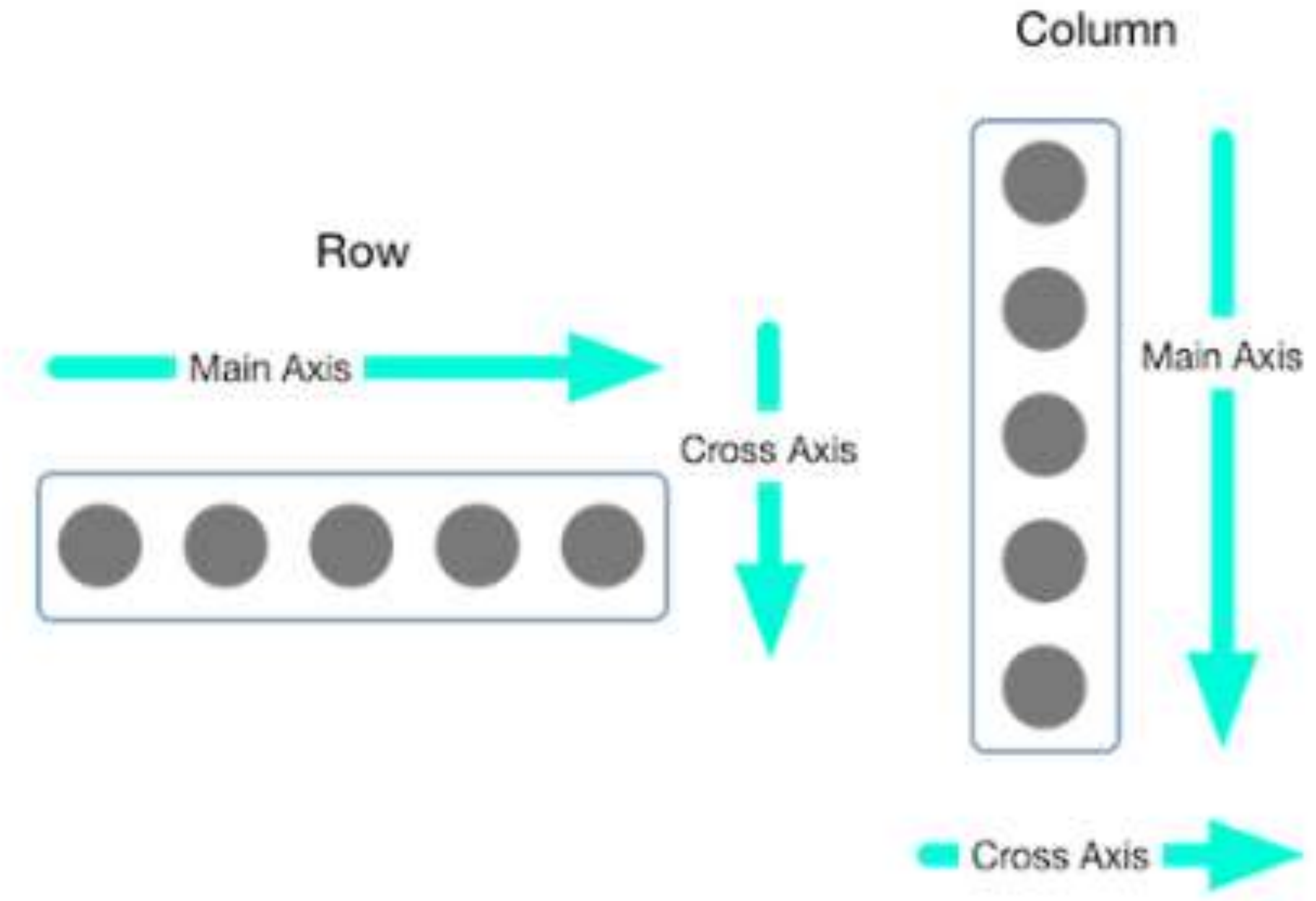
Aligning widgets

You control how a row or column aligns its children using the mainAxisAlignment and crossAxisAlignment properties. For a row, the main axis runs horizontally and the cross axis runs vertically. For a column, the main axis runs vertically and the cross axis runs horizontally.



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Aligning widgets

The MainAxisAlignment and CrossAxisAlignment classes offer a variety of constants for controlling alignment.

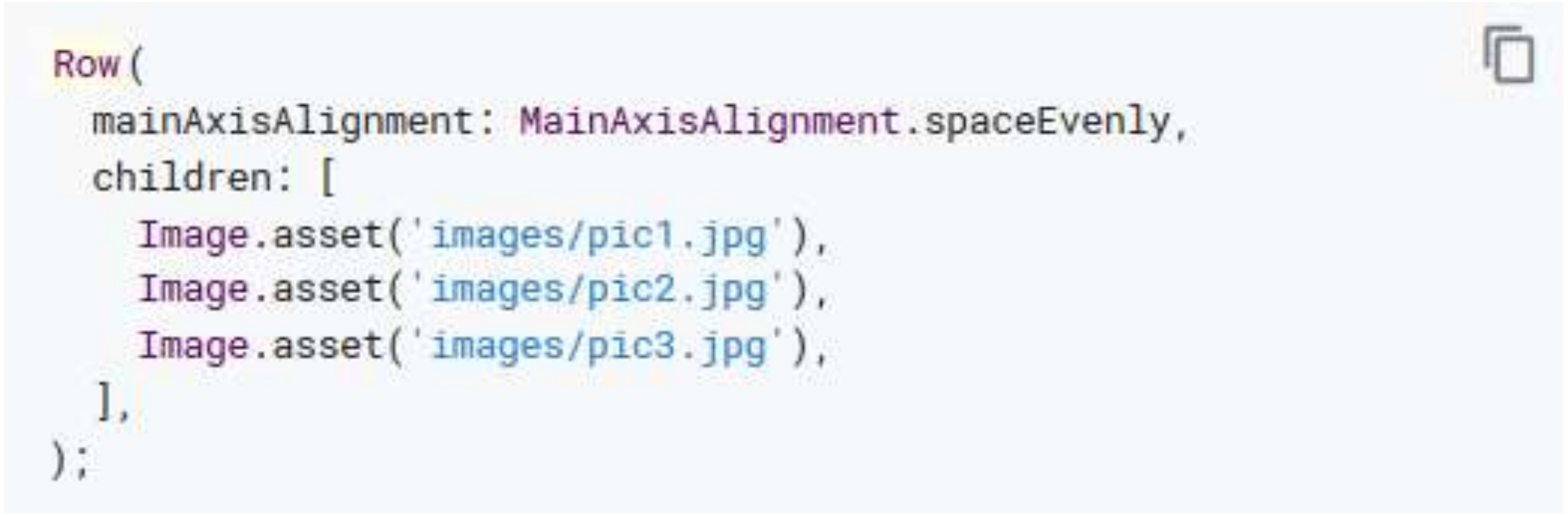
Aligning widgets

Note: When you add images to your project, you need to update the pubspec file to access them—this example uses Image.asset to display the images. You don’t need to do this if you’re referencing online images using Image.network.

Aligning widgets

In the following example, each of the 3 images is 100 pixels wide. The render box (in this case, the entire screen) is more than 300 pixels wide, so setting the main axis alignment to spaceEvenly divides the free horizontal space evenly between, before, and after each image.

Aligning widgets



```
Row(
  mainAxisAlignment: MainAxisAlignment.spaceEvenly,
  children: [
    Image.asset('images/pic1.jpg'),
    Image.asset('images/pic2.jpg'),
    Image.asset('images/pic3.jpg'),
  ],
);
```

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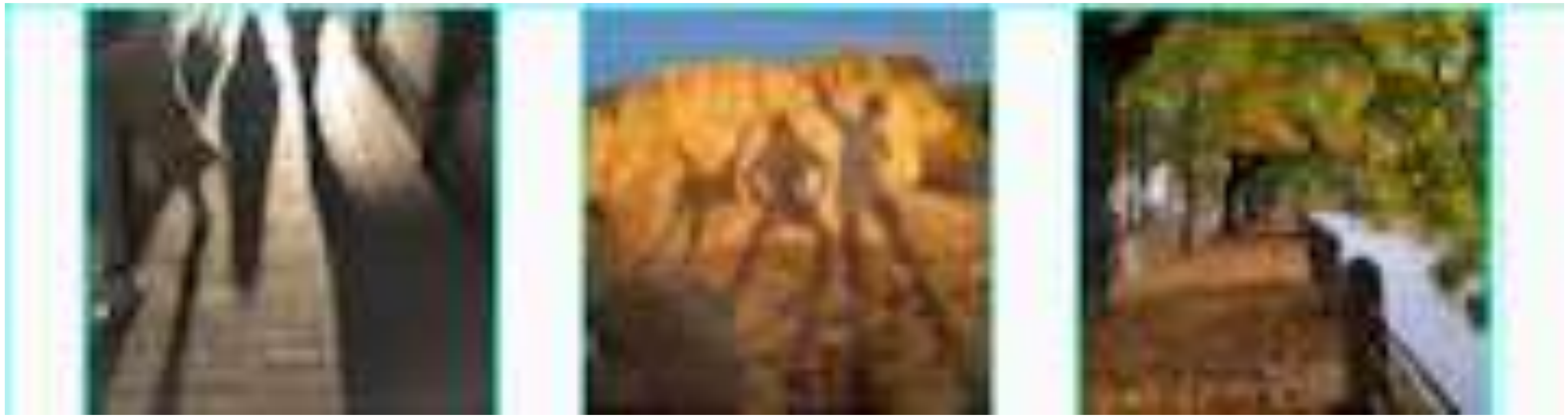
Aligning widgets



Check git link for App source: [row_column]

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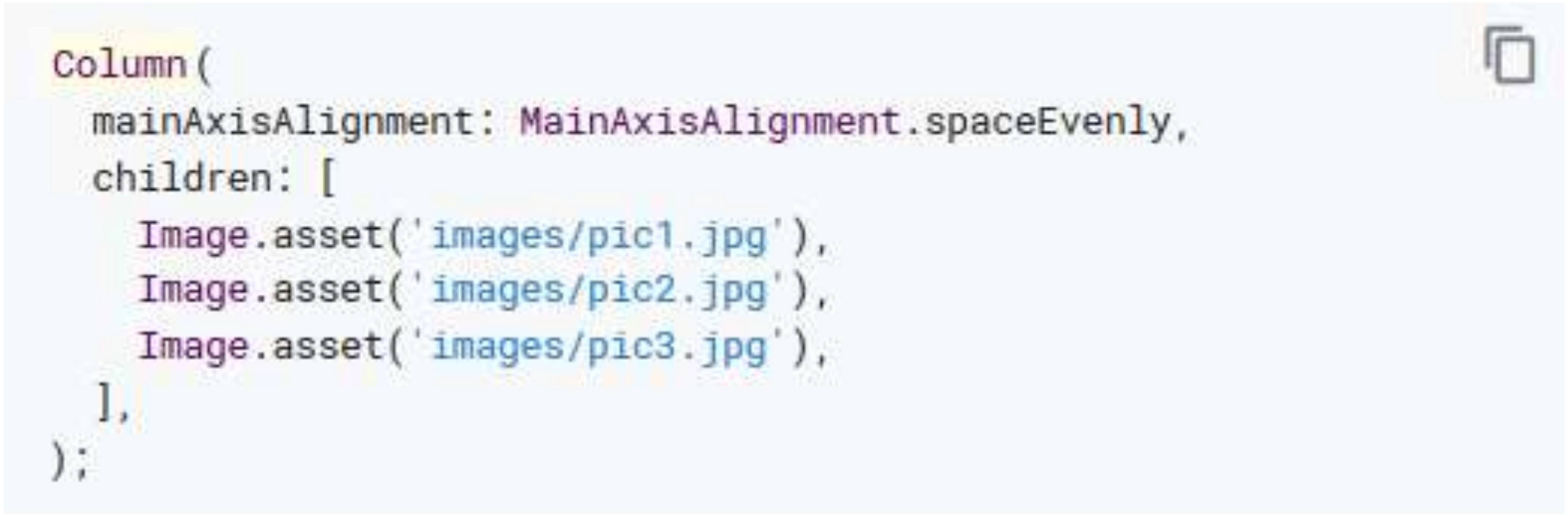
Aligning widgets

Columns work the same way as rows. The following example shows a column of 3 images, each is 100 pixels high. The height of the render box (in this case, the entire screen) is more than 300 pixels, so setting the main axis alignment to spaceEvenly divides the free vertical space evenly between, above, and below each image.

Aligning widgets



```
Column(
  mainAxisAlignment: MainAxisAlignment.spaceEvenly,
  children: [
    Image.asset('images/pic1.jpg'),
    Image.asset('images/pic2.jpg'),
    Image.asset('images/pic3.jpg'),
  ],
);
```

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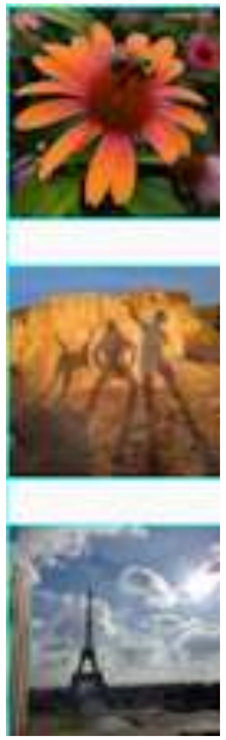
Aligning widgets



Check git link for App source: row_column

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Sizing widgets

When a layout is too large to fit a device, a yellow and black striped pattern appears along the affected edge.

Check git link for example of a row that is too wide:

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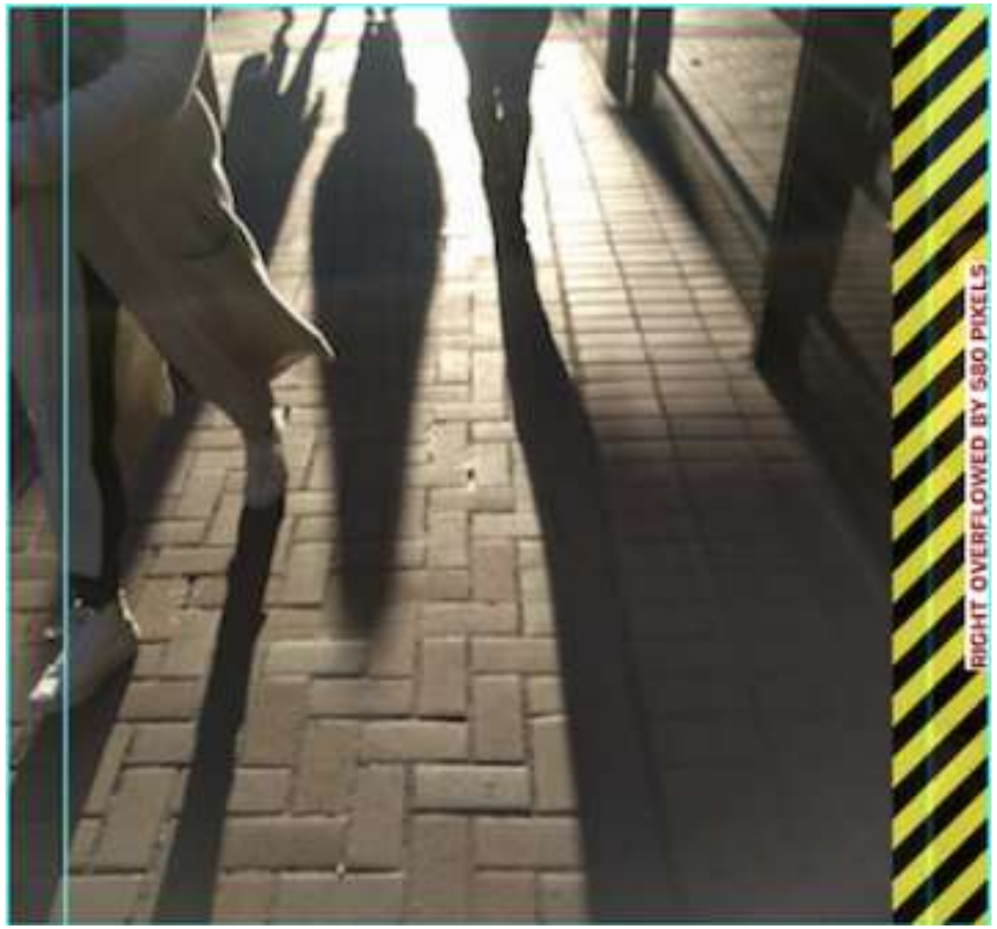
Sizing widgets



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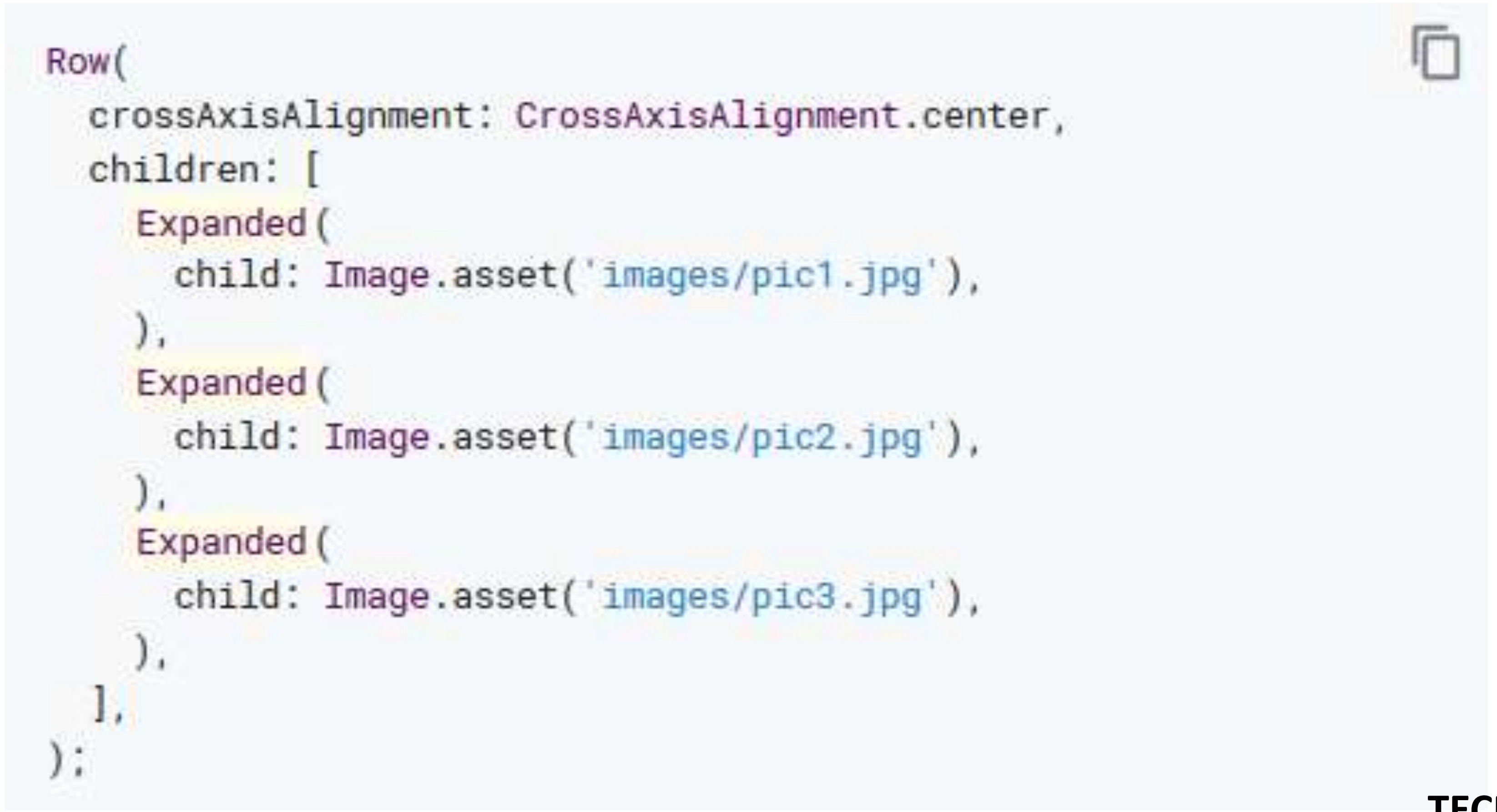
Sizing widgets

Widgets can be sized to fit within a row or column by using the Expanded widget. To fix the previous example where the row of images is too wide for its render box, wrap each image with an Expanded widget.

Sizing widgets



```
Row(
  crossAxisAlignment: CrossAxisAlignment.center,
  children: [
    Expanded(
      child: Image.asset('images/pic1.jpg'),
    ),
    Expanded(
      child: Image.asset('images/pic2.jpg'),
    ),
    Expanded(
      child: Image.asset('images/pic3.jpg'),
    ),
  ],
);
```

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Sizing widgets

Check git link for App source: sizing

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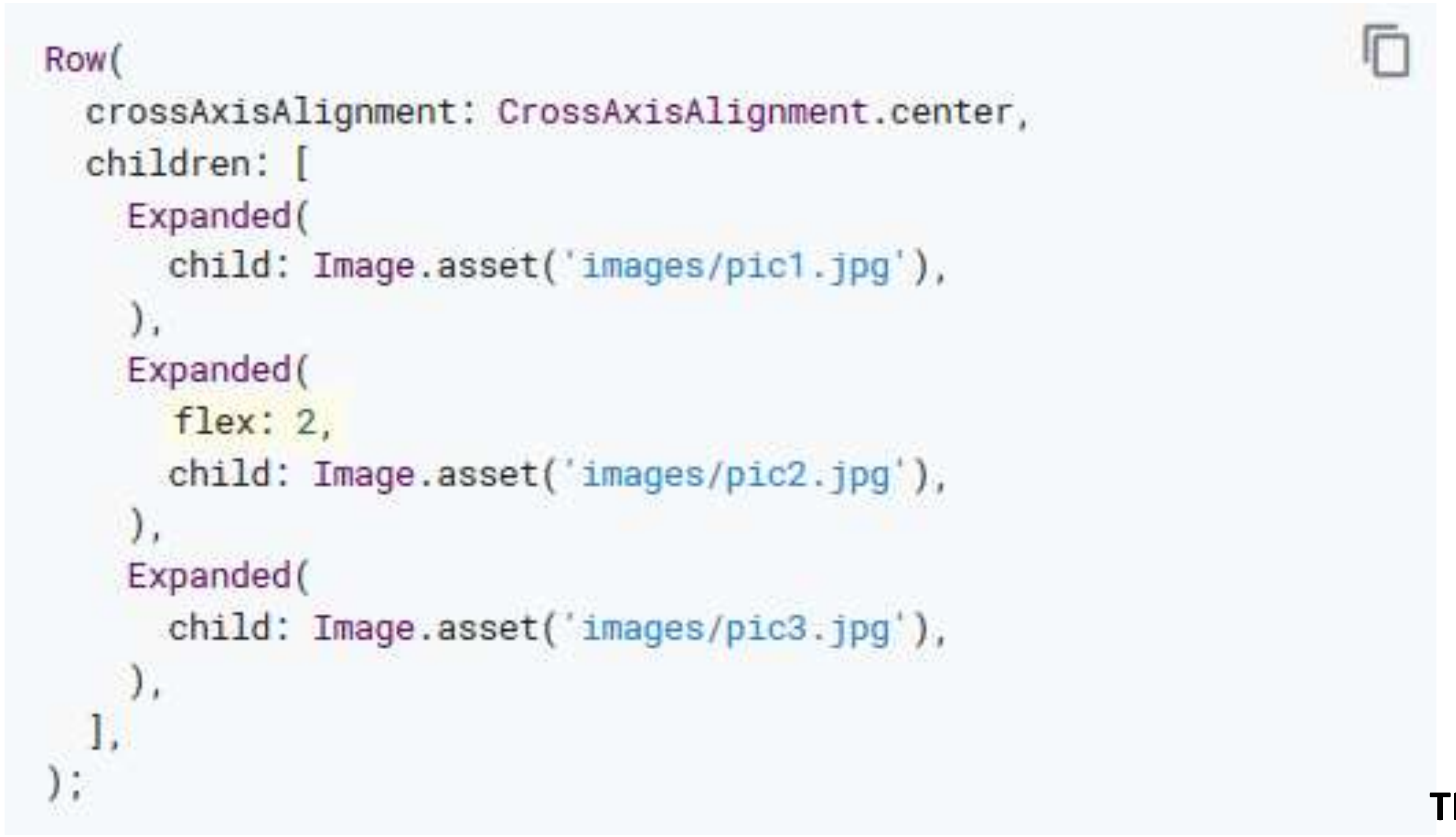
Sizing widgets

Perhaps you want a widget to occupy twice as much space as its siblings. For this, use the Expanded widget flex property, an integer that determines the flex factor for a widget. The default flex factor is 1. The following code sets the flex factor of the middle image to 2:

Sizing widgets



```
Row(
  crossAxisAlignment: CrossAxisAlignment.center,
  children: [
    Expanded(
      child: Image.asset('images/pic1.jpg'),
    ),
    Expanded(
      flex: 2,
      child: Image.asset('images/pic2.jpg'),
    ),
    Expanded(
      child: Image.asset('images/pic3.jpg'),
    ),
  ],
);
```

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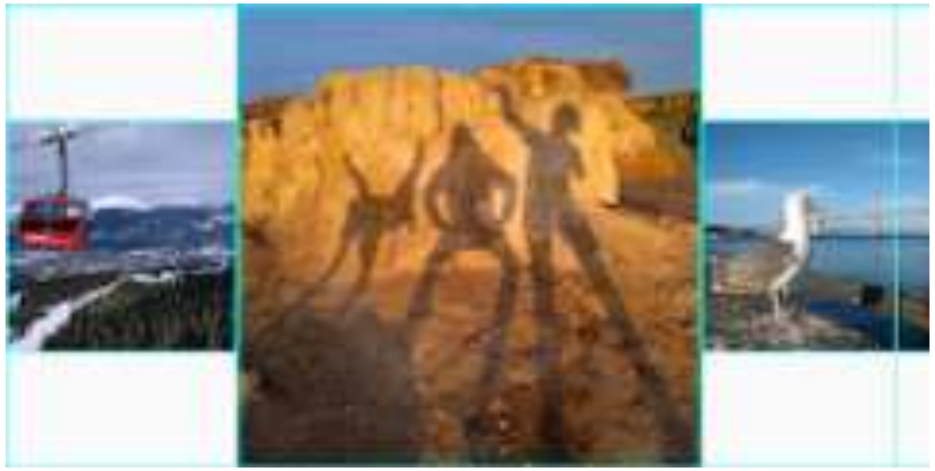
Sizing widgets

Check git link for App source: sizing



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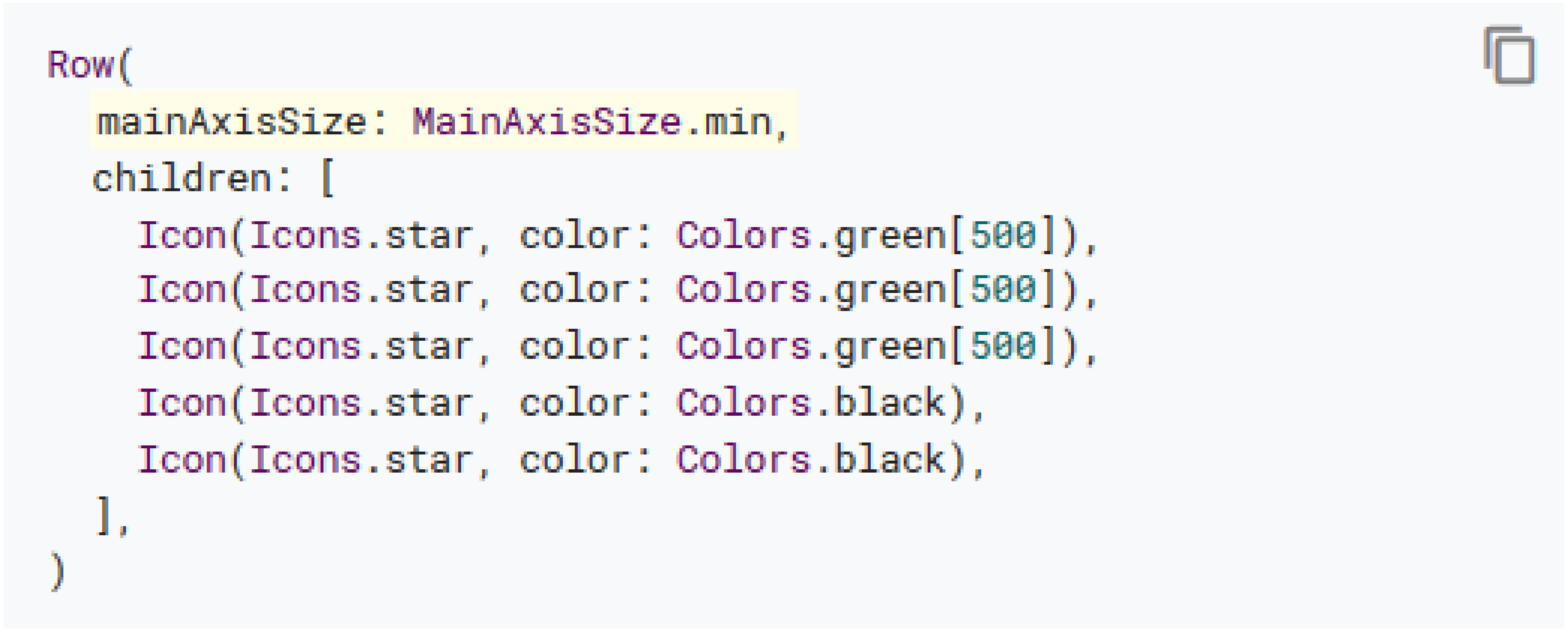
Packing widgets

By default, a row or column occupies as much space along its main axis as possible, but if you want to pack the children closely together, set its mainAxisSize to MainAxisSize.min. The following example uses this property to pack the star icons together.

Packing widgets



```
Row(
  mainAxisSize: MainAxisSize.min,
  children: [
    Icon(Icons.star, color: Colors.green[500]),
    Icon(Icons.star, color: Colors.green[500]),
    Icon(Icons.star, color: Colors.green[500]),
    Icon(Icons.star, color: Colors.black),
    Icon(Icons.star, color: Colors.black),
  ],
)
```

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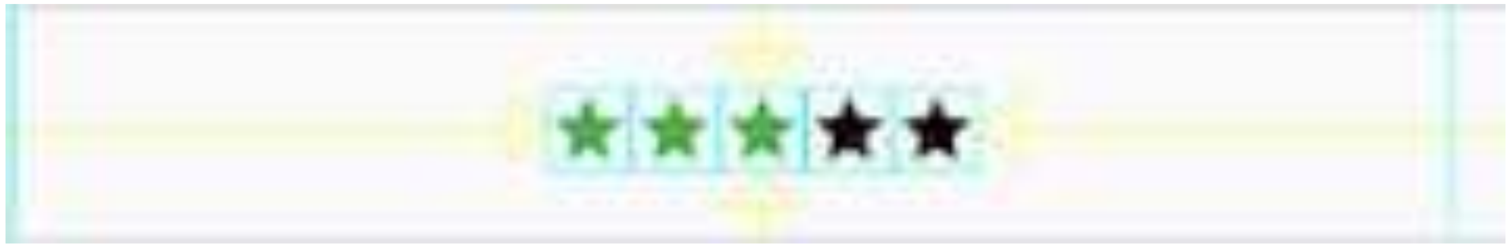
Packing widgets

Check git link for App source: pavlova



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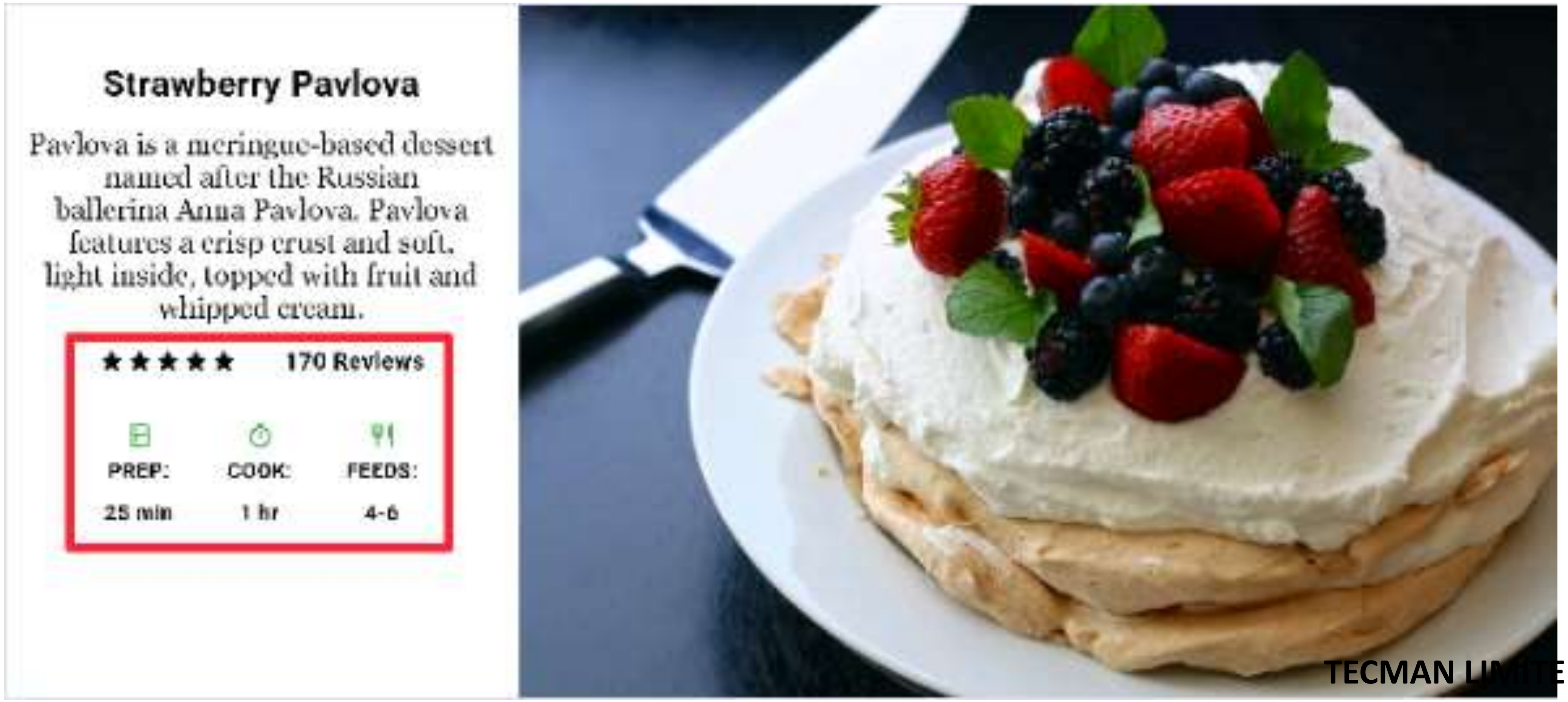
Nesting rows and columns

The layout framework allows you to nest rows and columns inside of rows and columns as deeply as you need. Let’s look the code for the outlined section of the following layout:

Nesting rows and columns



Strawberry Pavlova

Pavlova is a meringue-based dessert named after the Russian ballerina Anna Pavlova. Pavlova features a crisp crust and soft, light inside, topped with fruit and whipped cream.

★★★★★ 170 Reviews

PREP:	COOK:	FEEDS:
25 min	1 hr	4-6

Nesting rows and columns

The outlined section is implemented as two rows. The ratings row contains five stars and the number of reviews. The icons row contains three columns of icons and text.

The widget tree for the ratings row:

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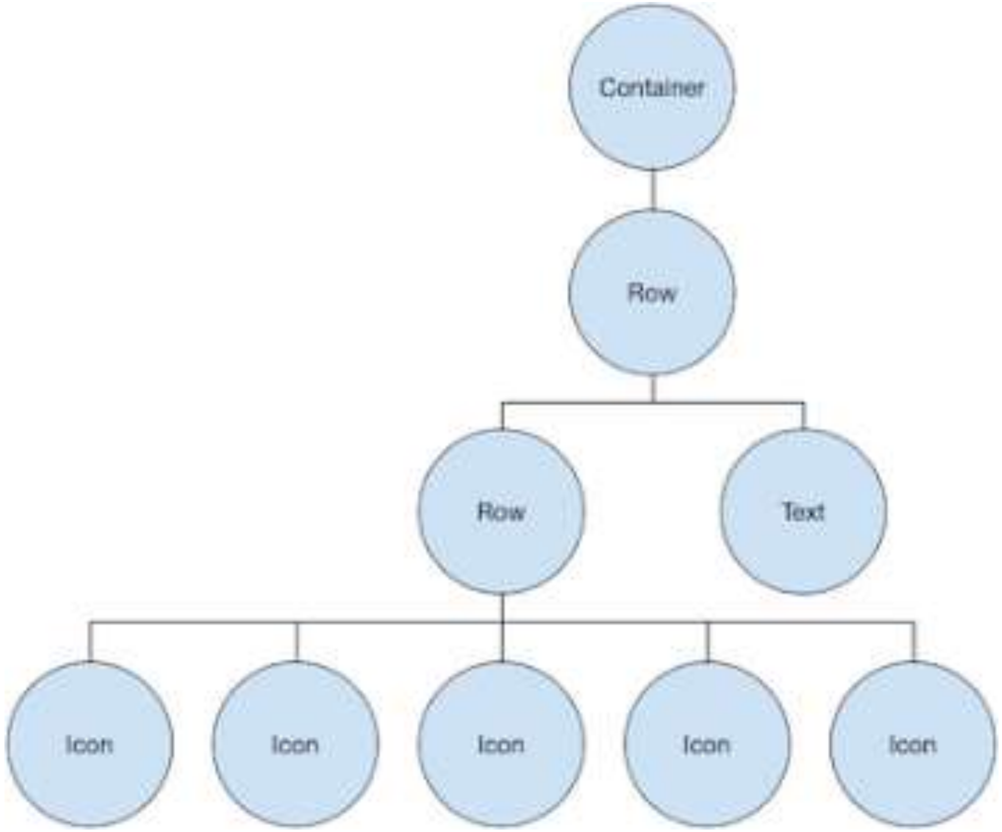
Nesting rows and columns



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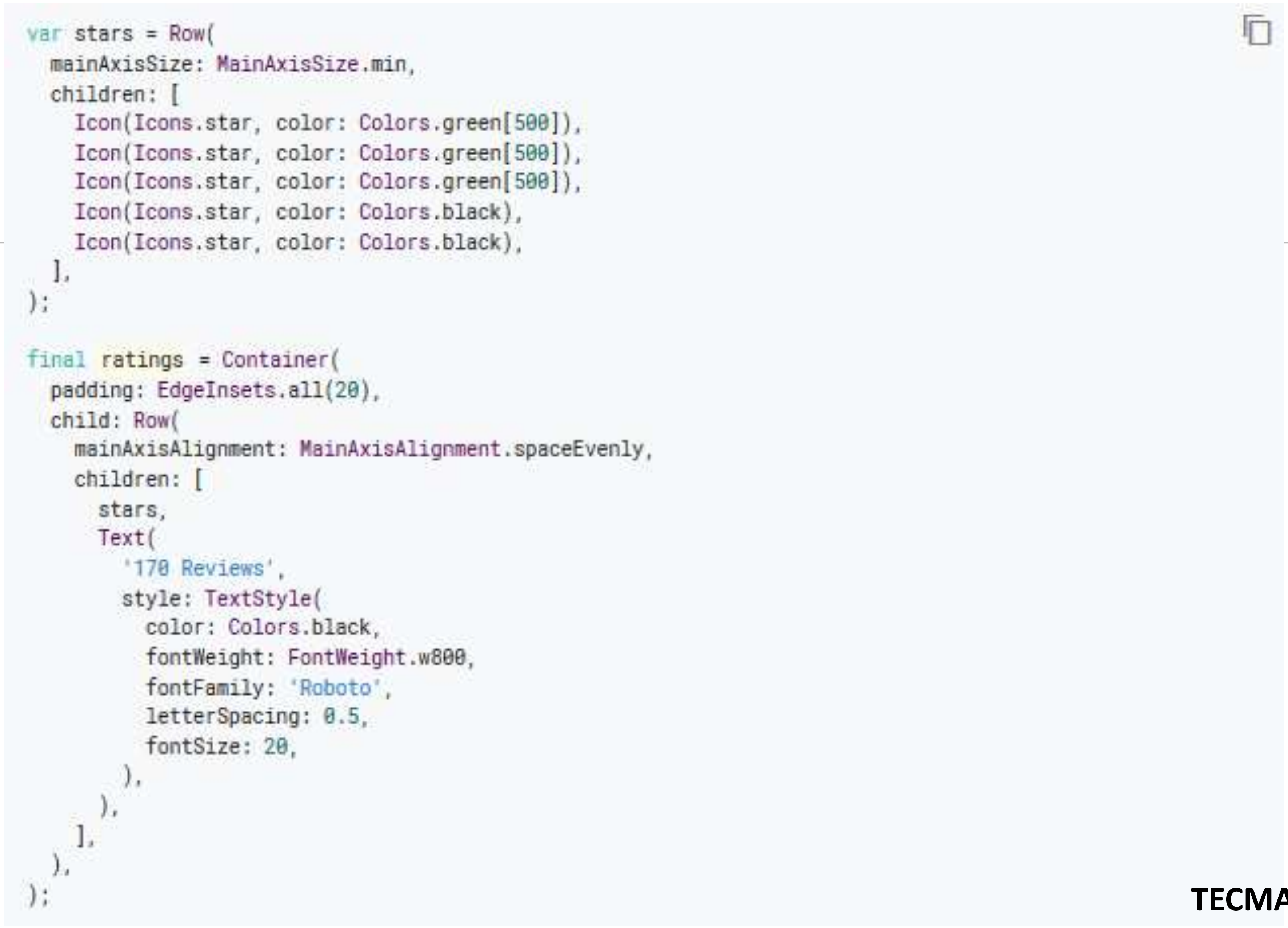
Nesting rows and columns

The ratings variable creates a row containing a smaller row of 5 star icons, and text:



```
var stars = Row(
  mainAxisSize: MainAxisSize.min,
  children: [
    Icon(Icons.star, color: Colors.green[500]),
    Icon(Icons.star, color: Colors.green[500]),
    Icon(Icons.star, color: Colors.green[500]),
    Icon(Icons.star, color: Colors.black),
    Icon(Icons.star, color: Colors.black),
  ],
);

final ratings = Container(
  padding: EdgeInsets.all(20),
  child: Row(
    mainAxisAlignment: MainAxisAlignment.spaceEvenly,
    children: [
      stars,
      Text(
        '170 Reviews',
        style: TextStyle(
          color: Colors.black,
          fontWeight: FontWeight.w800,
          fontFamily: 'Roboto',
          letterSpacing: 0.5,
          fontSize: 20,
        ),
      ),
    ],
  ),
);
```

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Nesting rows and columns

Tip: To minimize the visual confusion that can result from heavily nested layout code, implement pieces of the UI in variables and functions.

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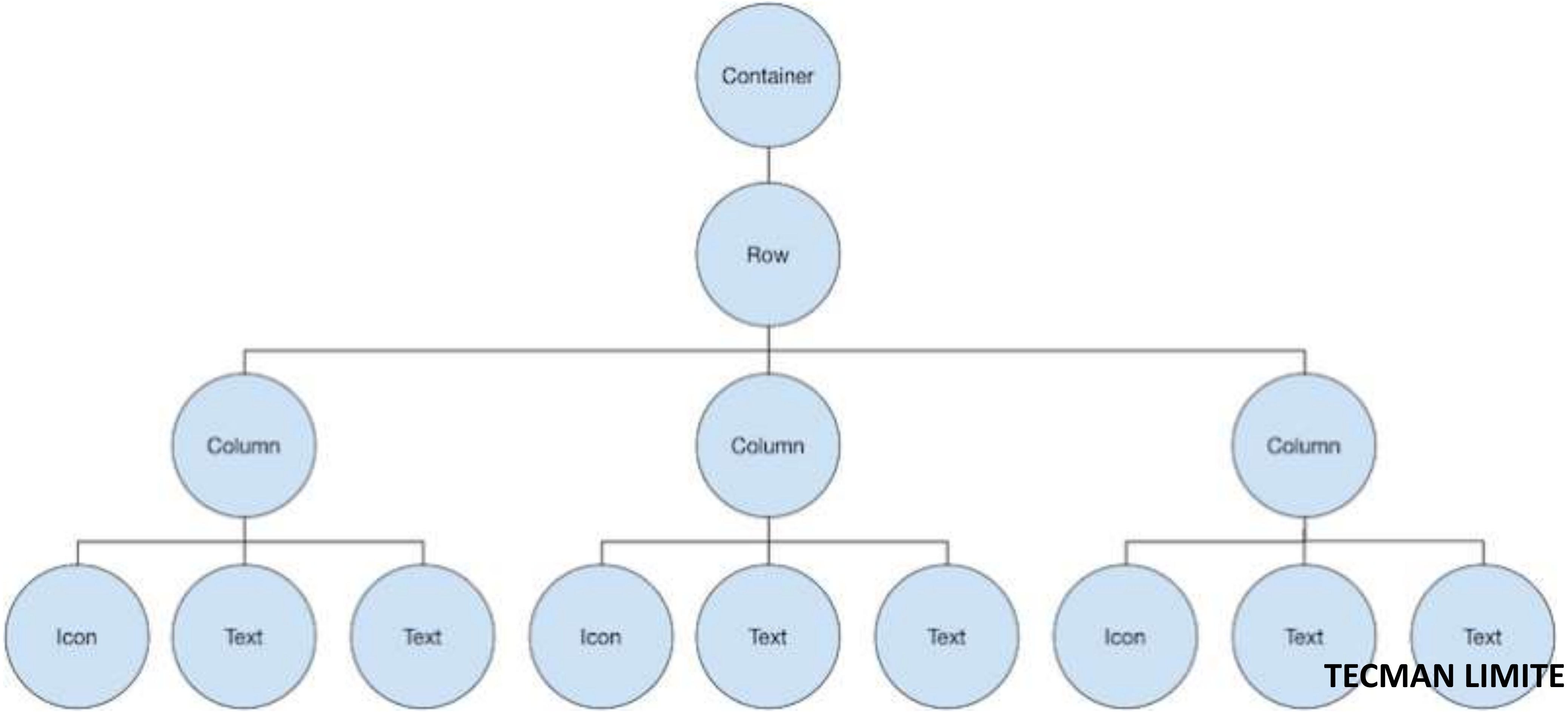
Nesting rows and columns

The icons row, below the ratings row, contains 3 columns; each column contains an icon and two lines of text, as you can see in its widget tree:

Nesting rows and columns



Nesting rows and columns

The iconList variable defines the icons row:

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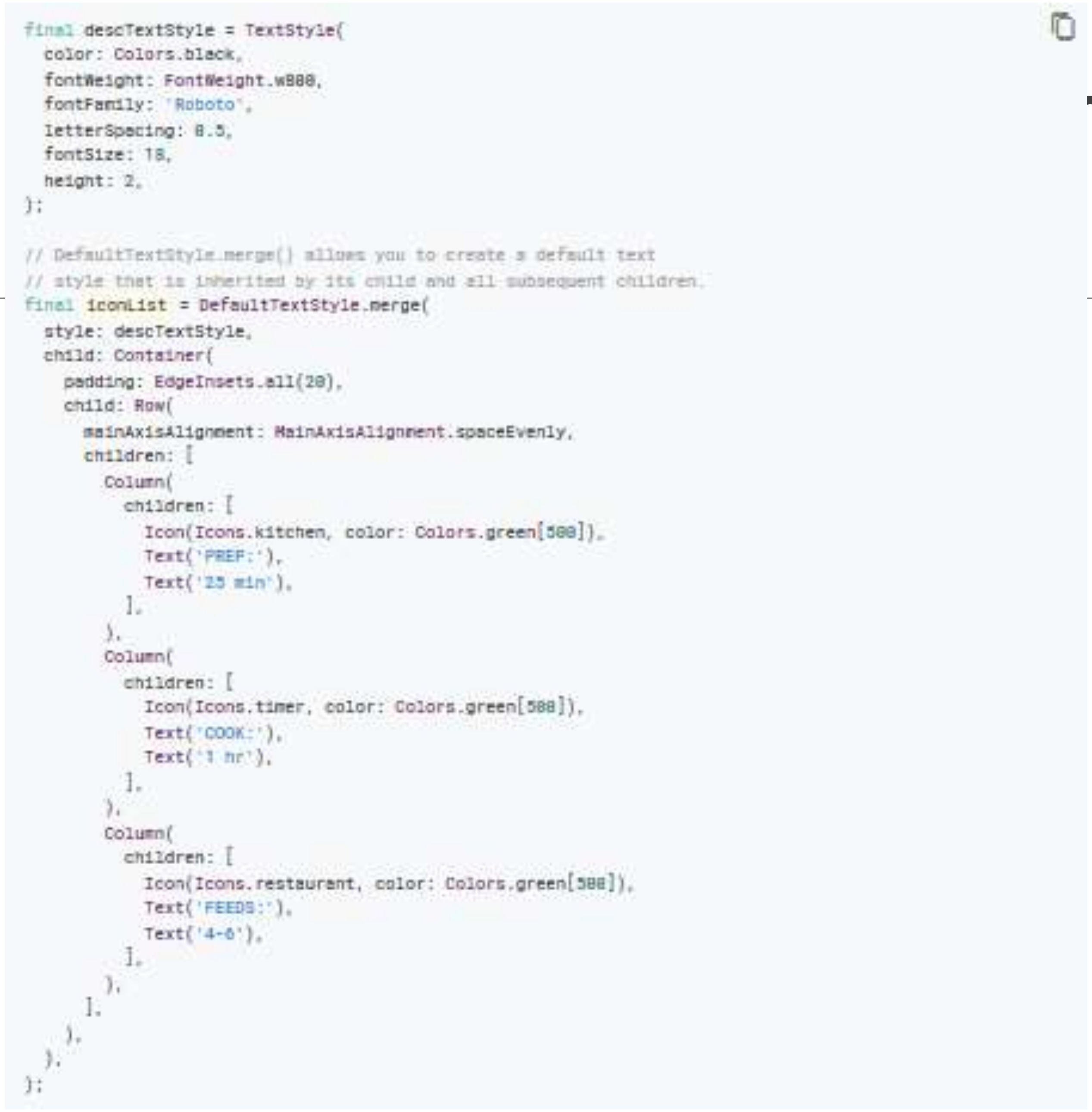
ns



```
final descTextStyle = TextStyle(
  color: Colors.black,
  fontWeight: FontWeight.w800,
  fontFamily: 'Roboto',
  letterSpacing: 0.5,
  fontSize: 18,
  height: 2,
);

// DefaultTextStyle.merge() allows you to create a default text
// style that is inherited by its child and all subsequent children.
final iconList = DefaultTextStyle.merge(
  style: descTextStyle,
  child: Container(
    padding: EdgeInsets.all(20),
    child: Row(
      mainAxisAlignment: MainAxisAlignment.spaceEvenly,
      children: [
        Column(
          children: [
            Icon(Icons.kitchen, color: Colors.green[500]),
            Text('PREP:'),
            Text('25 min'),
          ],
        ),
        Column(
          children: [
            Icon(Icons.timer, color: Colors.green[500]),
            Text('COOK:'),
            Text('1 hr'),
          ],
        ),
        Column(
          children: [
            Icon(Icons.restaurant, color: Colors.green[500]),
            Text('FEEDS:'),
            Text('4-6'),
          ],
        ),
      ],
    ),
  ),
);
```

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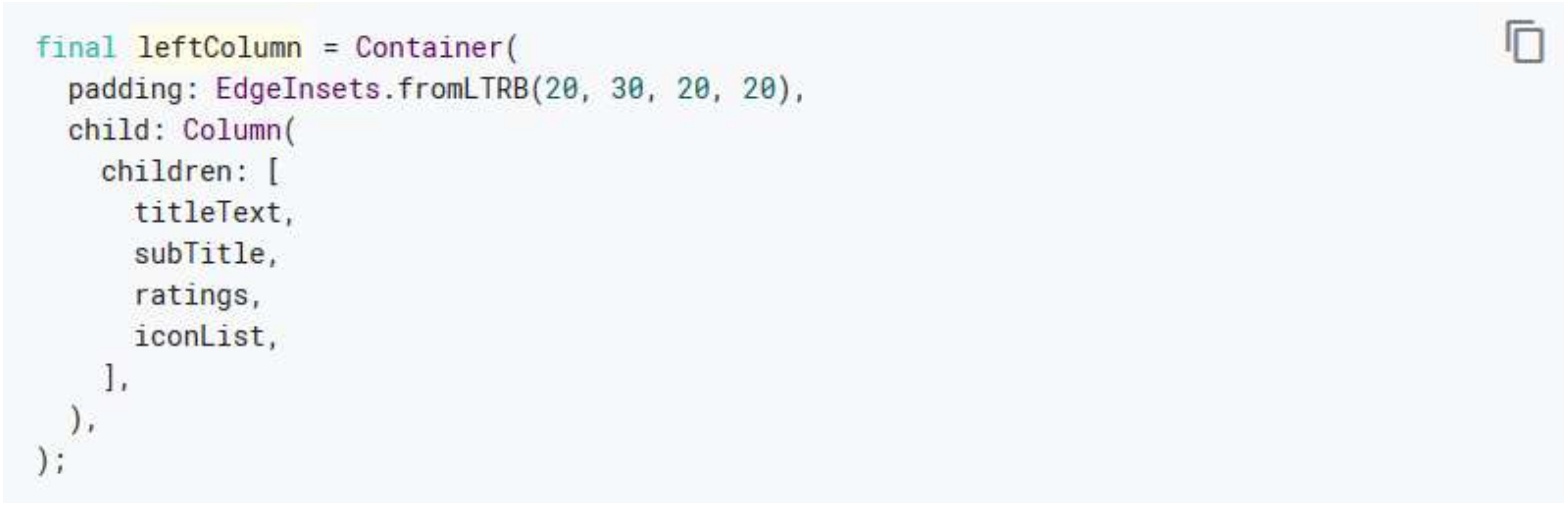
Nesting rows and columns

The leftColumn variable contains the ratings and icons rows, as well as the title and text that describes the Pavlova:

Nesting rows and columns



```
final leftColumn = Container(
  padding: EdgeInsets.fromLTRB(20, 30, 20, 20),
  child: Column(
    children: [
      titleText,
      subTitle,
      ratings,
      iconList,
    ],
  ),
);
```

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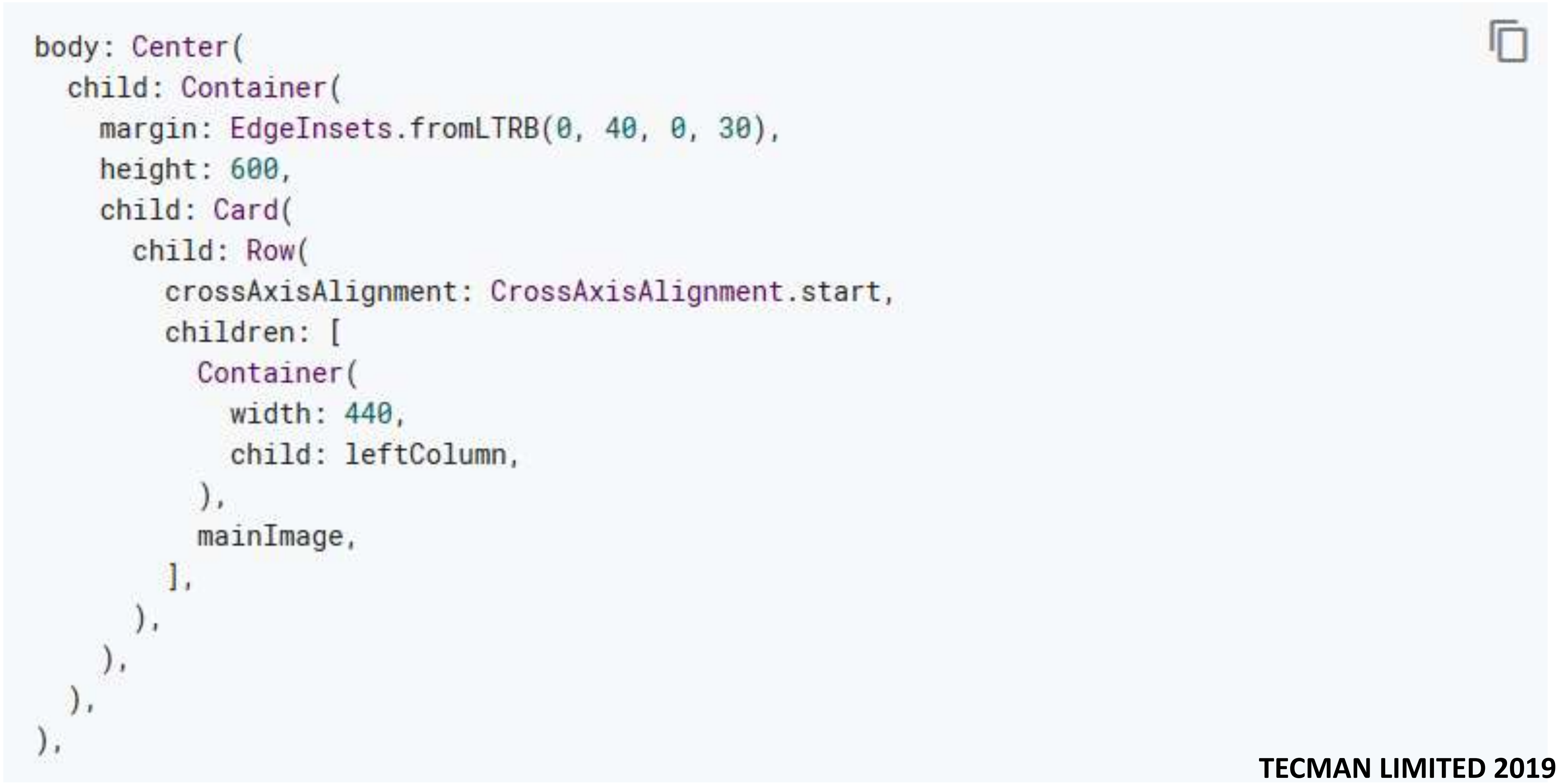
Nesting rows and columns

The left column is placed in a Container to constrain its width. Finally, the UI is constructed with the entire row (containing the left column and the image) inside a Card.

The Pavlova image is from Pixabay. You can embed an image from the net using Image.network() but, for this example, the image is saved to an images directory in the project, added to the pubspec file, and accessed using Images.asset().



```
body: Center(
  child: Container(
    margin: EdgeInsets.fromLTRB(0, 40, 0, 30),
    height: 600,
    child: Card(
      child: Row(
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
          Container(
            width: 440,
            child: leftColumn,
          ),
          mainImage,
        ],
      ),
    ),
  ),
),
```

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Nesting rows and columns

Tip: The Pavlova example runs best horizontally on a wide device, such as a tablet. If you are running this example in the iOS simulator, you can select a different device using the **Hardware > Device** menu. For this example, we recommend the iPad Pro. You can change its orientation to landscape mode using **Hardware > Rotate**. You can also change the size of the simulator window (without changing the number of logical pixels) using **Window > Scale**.

Nesting rows and columns

Check git link for App source: pavlova

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Common layout widgets

Flutter has a rich library of layout widgets. Here are a few of those most commonly used. The intent is to get you up and running as quickly as possible, rather than overwhelm you with a complete list.

The following widgets fall into two categories: standard widgets from the widgets library, and specialized widgets from the Material library. Any app can use the widgets library but only Material apps can use the Material Components library

Common layout widgets

Standard widgets

- Container: Adds padding, margins, borders, background color, or other decorations to a widget.
- GridView: Lays widgets out as a scrollable grid.
- ListView: Lays widgets out as a scrollable list.
- Stack: Overlaps a widget on top of another.

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Common layout widgets

Material widgets

- Card: Organizes related info into a box with rounded corners and a drop shadow.
- ListTile: Organizes up to 3 lines of text, and optional leading and trailing icons, into a row.

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Common layout widgets

Container

Many layouts make liberal use of Containers to separate widgets using padding, or to add borders or margins. You can change the device's background by placing the entire layout into a Container and changing its background color or image.

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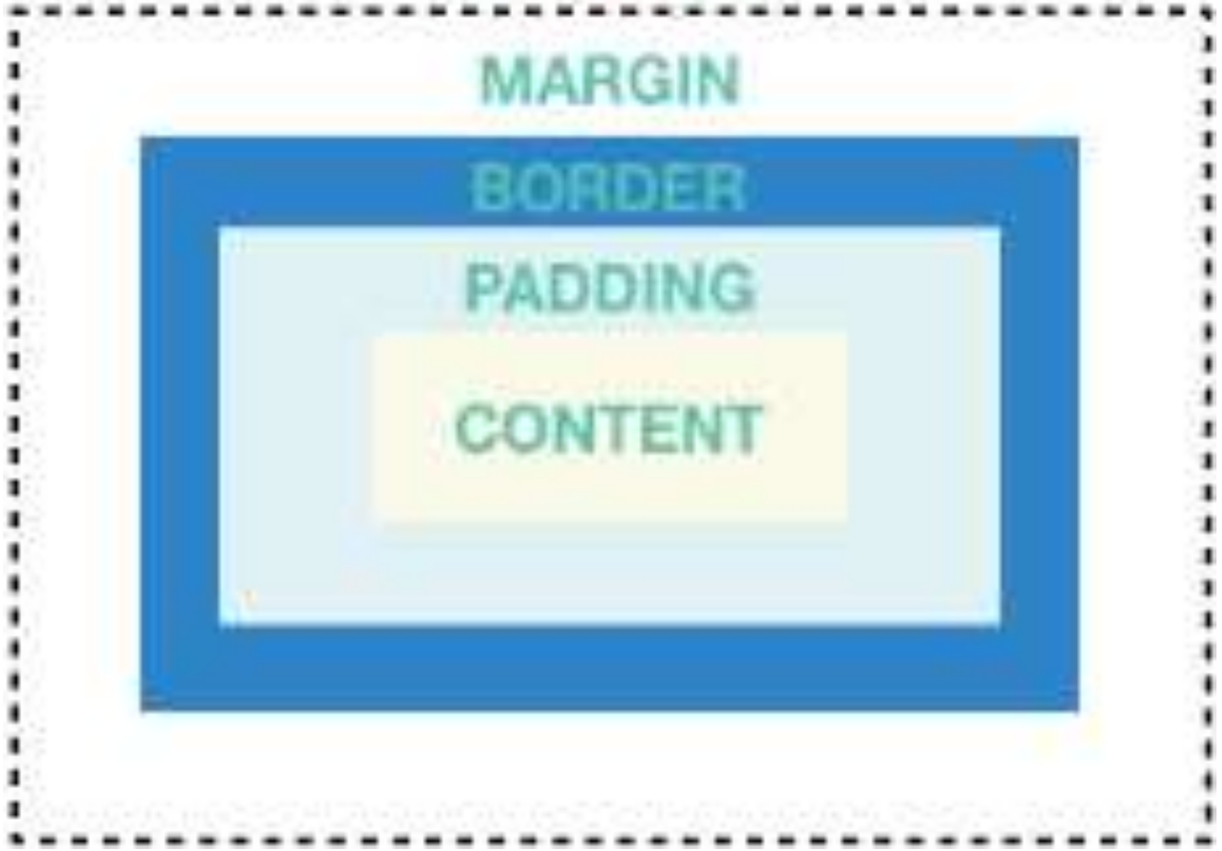
Common layout widgets

Summary (Container)

- Add padding, margins, borders
- Change background color or image
- Contains a single child widget, but that child can be a Row, Column, or even the root of a widget tree

Common layout widgets



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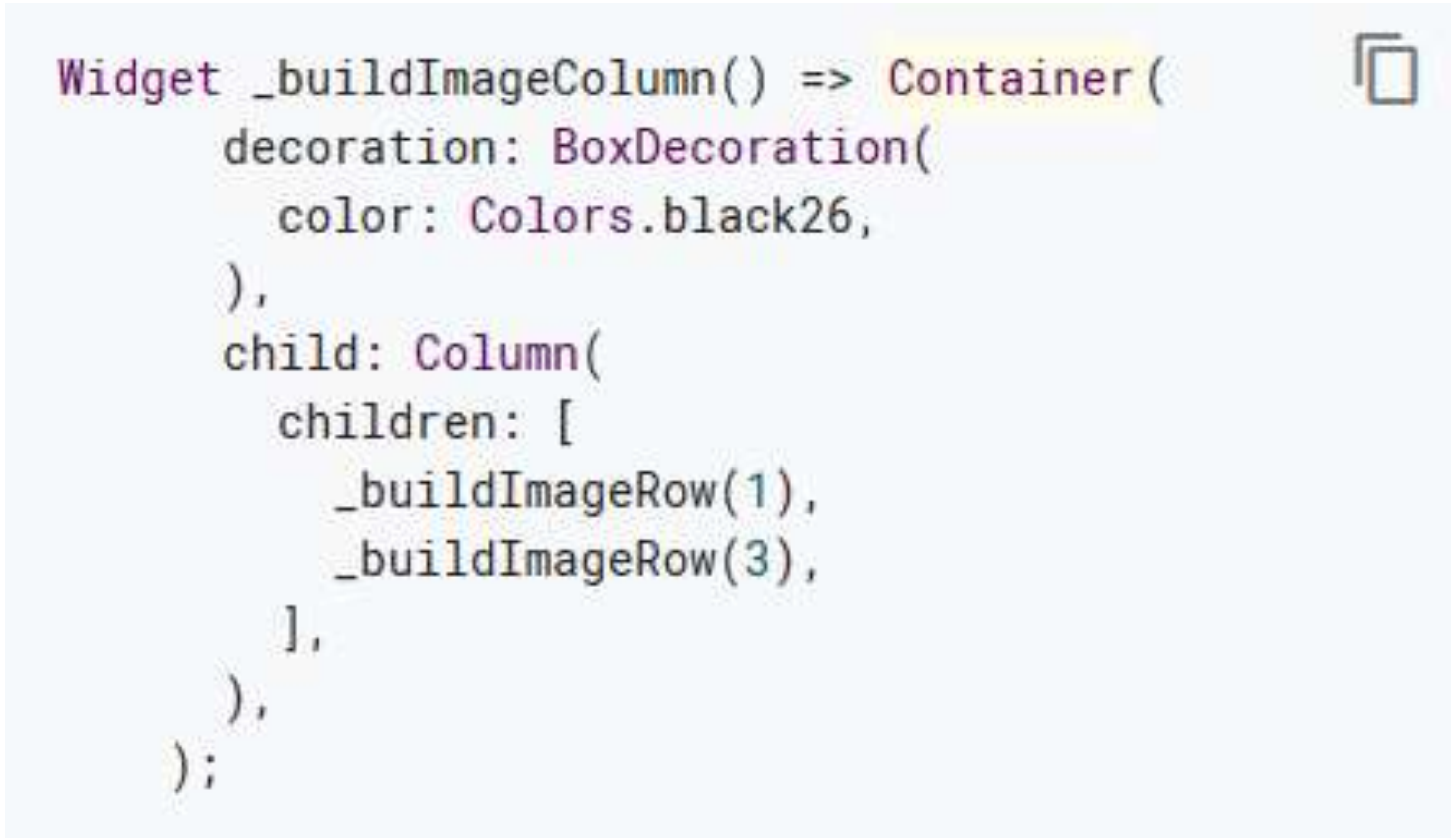
Examples (Container)

This layout consists of a column with two rows, each containing 2 images. A Container is used to change the background color of the column to a lighter grey.

Examples (Container)



```
Widget _buildImageColumn() => Container(
      decoration: BoxDecoration(
        color: Colors.black26,
      ),
      child: Column(
        children: [
          _buildImageRow(1),
          _buildImageRow(3),
        ],
      ),
    );
```

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Examples (Container)

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Examples (Container)

A Container is also used to add a rounded border and margins to each image:

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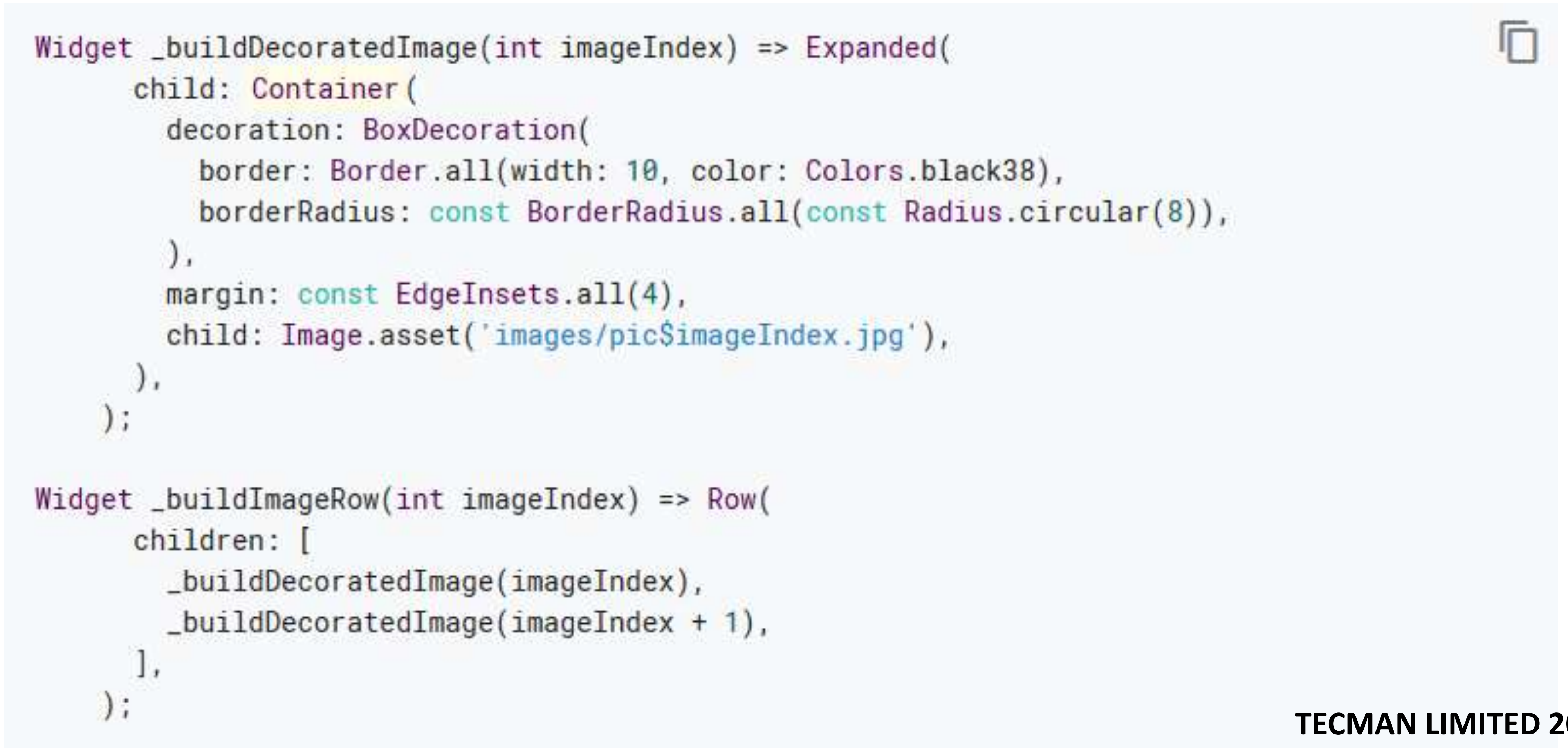
Examples (Container)



```
Widget _buildDecoratedImage(int imageIndex) => Expanded(
      child: Container(
        decoration: BoxDecoration(
          border: Border.all(width: 10, color: Colors.black38),
          borderRadius: const BorderRadius.all(const Radius.circular(8)),
        ),
        margin: const EdgeInsets.all(4),
        child: Image.asset('images/pic$imageIndex.jpg'),
      ),
    );

Widget _buildImageRow(int imageIndex) => Row(
      children: [
        _buildDecoratedImage(imageIndex),
        _buildDecoratedImage(imageIndex + 1),
      ],
    );
```

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Examples (Container)

Check git link for App source: [container]

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GridView

Use GridView to lay widgets out as a two-dimensional list. GridView provides two pre-fabricated lists, or you can build your own custom grid. When a GridView detects that its contents are too long to fit the render box, it automatically scrolls.

GridView

Summary (GridView)

Lays widgets out in a grid

Detects when the column content exceeds the render box and automatically provides scrolling

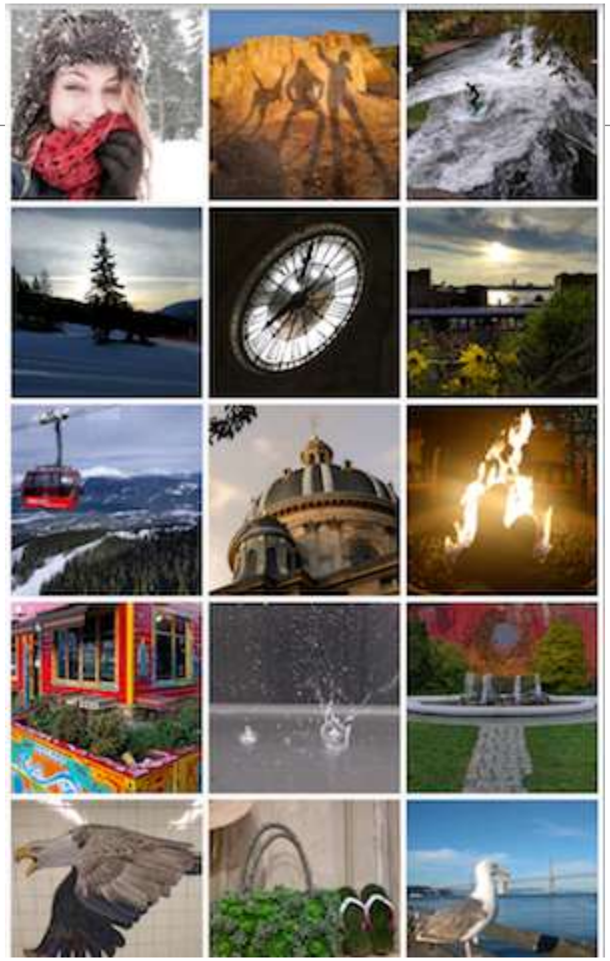
Build your own custom grid, or use one of the provided grids:

- GridView.count allows you to specify the number of columns
- GridView.extent allows you to specify the maximum pixel width of a tile

GridView

Note: When displaying a two-dimensional list where it’s important which row and column a cell occupies (for example, it’s the entry in the “calorie” column for the “avocado” row), use Table or DataTable.

Example GridView



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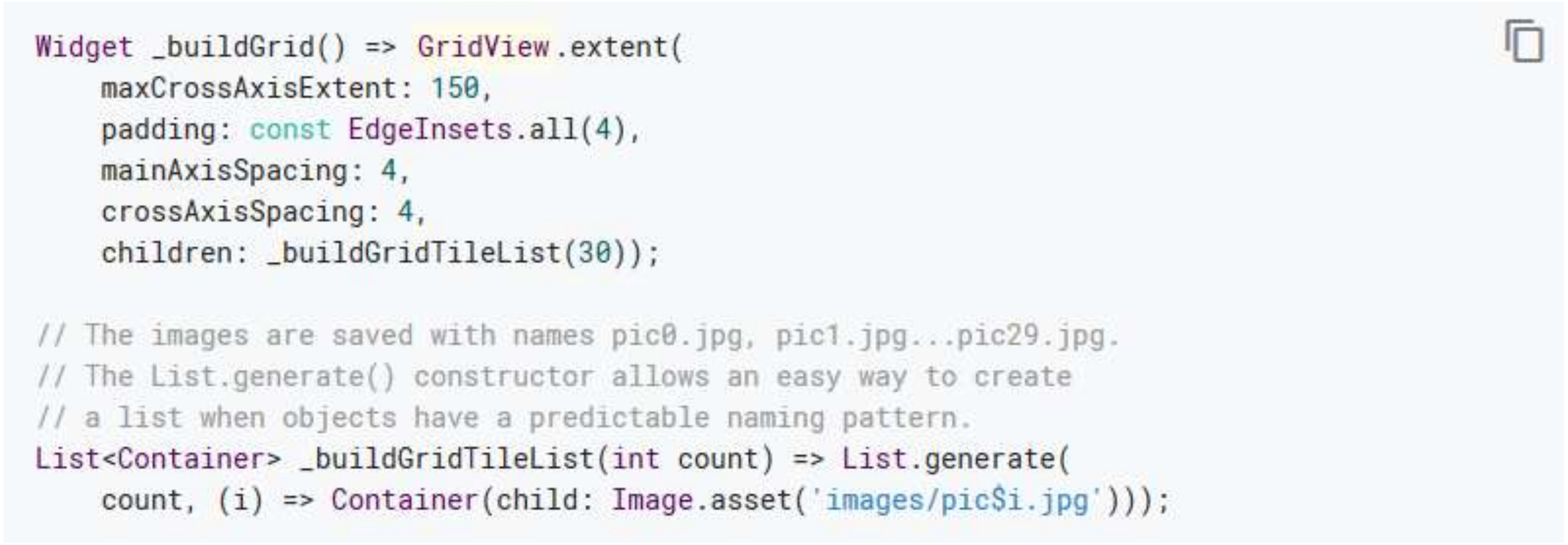
Example GridView

Example GridView

Uses GridView.extent to create a grid with tiles a maximum 150 pixels wide.

Check git link for App source: grid_and_list

Example GridView



```
Widget _buildGrid() => GridView.extent(
    maxCrossAxisExtent: 150,
    padding: const EdgeInsets.all(4),
    mainAxisSpacing: 4,
    crossAxisSpacing: 4,
    children: _buildGridTileList(30));

// The images are saved with names pic0.jpg, pic1.jpg...pic29.jpg.
// The List.generate() constructor allows an easy way to create
// a list when objects have a predictable naming pattern.
List<Container> _buildGridTileList(int count) => List.generate(
    count, (i) => Container(child: Image.asset('images/pic$i.jpg')));
```

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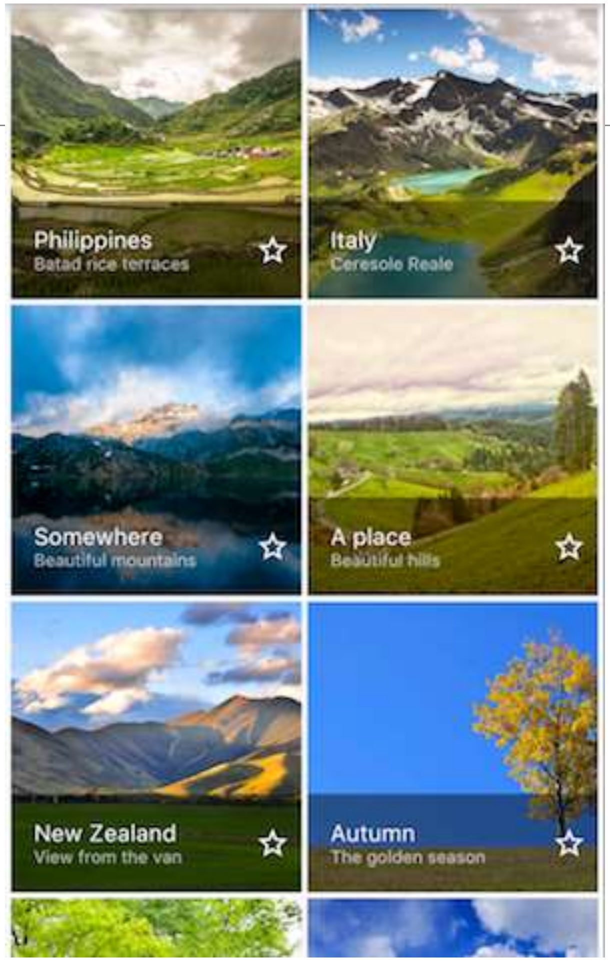
Example GridView



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Example GridView

Uses GridView.count to create a grid that's 2 tiles wide in portrait mode, and 3 tiles wide in landscape mode. The titles are created by setting the footer property for each GridTile.

Check git link for Dart code: grid_list_demo.dart from the Flutter Gallery

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ListView

ListView, a column-like widget, automatically provides scrolling when its content is too long for its render box.

Summary (ListView)

- A specialized Column for organizing a list of boxes
- Can be laid out horizontally or vertically
- Detects when its content won’t fit and provides scrolling
- Less configurable than Column, but easier to use and supports scrolling

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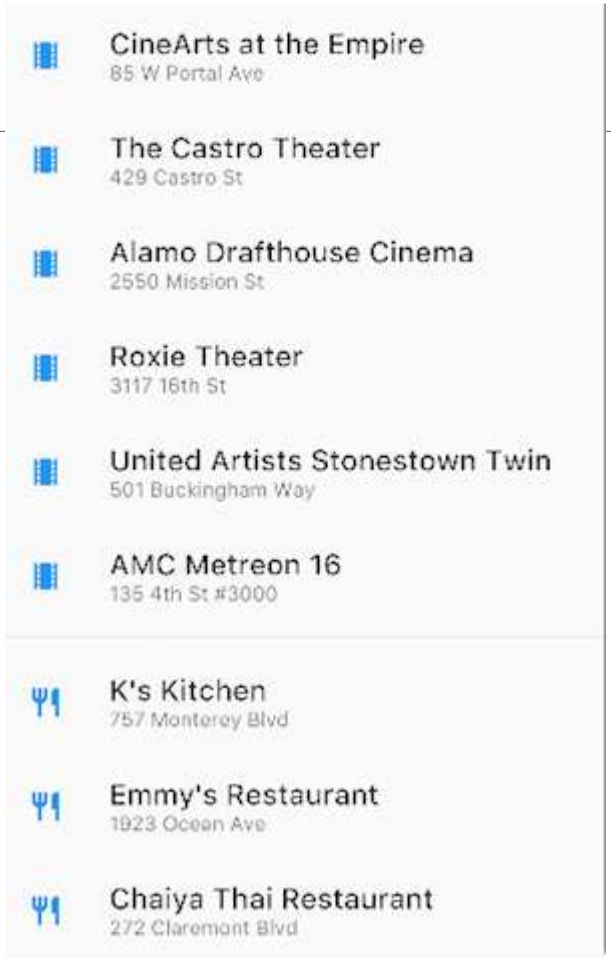
Examples (ListView)


CineArts at the Empire
85 W Portal Ave

The Castro Theater
429 Castro St

Alamo Drafthouse Cinema
2550 Mission St

Roxie Theater
3117 16th St

United Artists Stonestown Twin
501 Buckingham Way

AMC Metreon 16
135 4th St #3000

K's Kitchen
757 Monterey Blvd

Emmy's Restaurant
1923 Ocean Ave

Chaiya Thai Restaurant
272 Claremont Blvd

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Examples (ListView)

Uses ListView to display a list of businesses using ListTiles. A Divider separates the theaters from the restaurants.

Check git link for App source: grid_and_list

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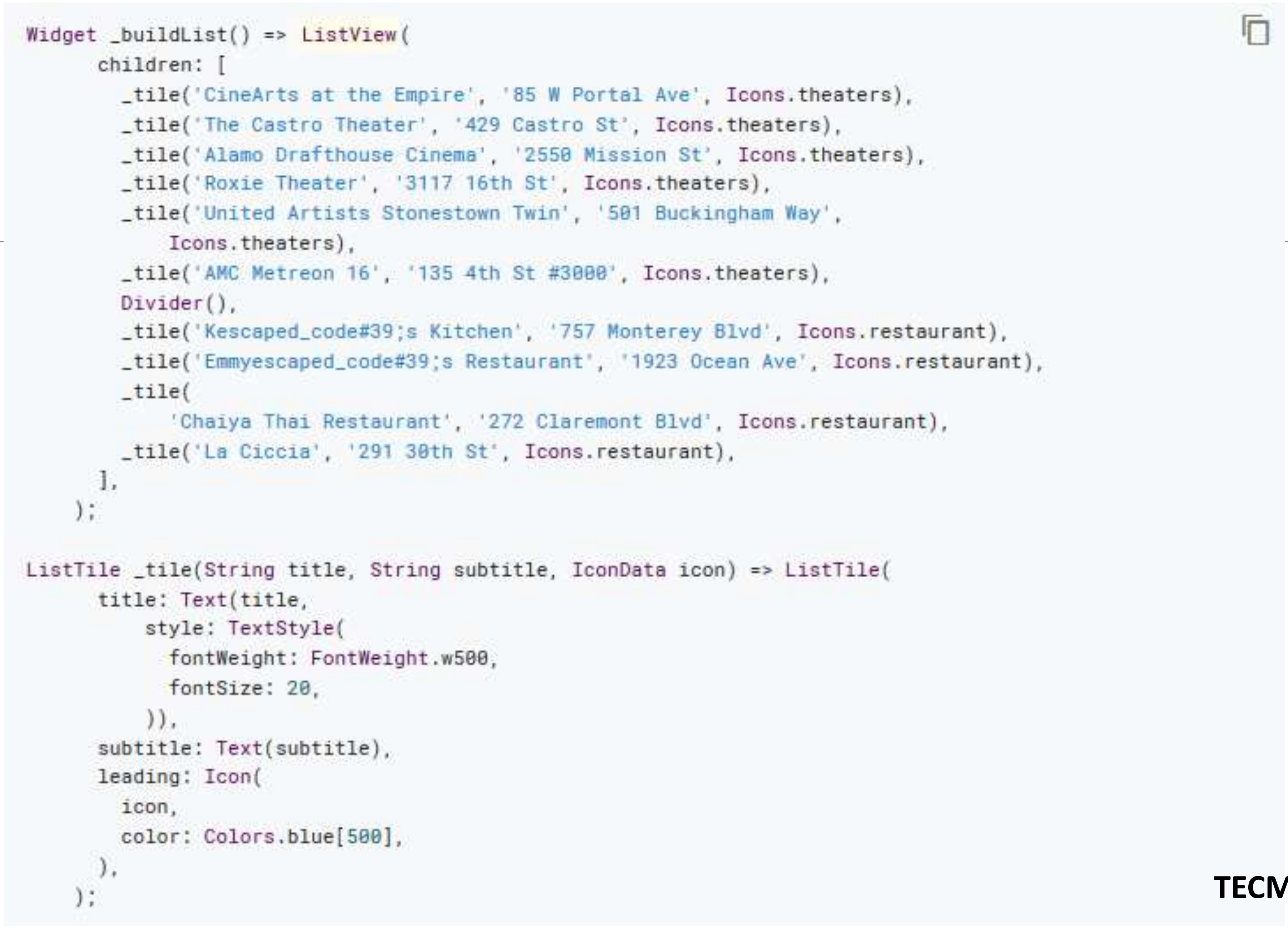

```
Widget _buildList() => ListView(
      children: [
        _tile('CineArts at the Empire', '85 W Portal Ave', Icons.theaters),
        _tile('The Castro Theater', '429 Castro St', Icons.theaters),
        _tile('Alamo Drafthouse Cinema', '2550 Mission St', Icons.theaters),
        _tile('Roxie Theater', '3117 16th St', Icons.theaters),
        _tile('United Artists Stonestown Twin', '501 Buckingham Way',
            Icons.theaters),
        _tile('AMC Metreon 16', '135 4th St #3000', Icons.theaters),
        Divider(),
        _tile('Kescaped_code#39;s Kitchen', '757 Monterey Blvd', Icons.restaurant),
        _tile('Emmyescaped_code#39;s Restaurant', '1923 Ocean Ave', Icons.restaurant),
        _tile(
            'Chaiya Thai Restaurant', '272 Claremont Blvd', Icons.restaurant),
        _tile('La Ciccia', '291 30th St', Icons.restaurant),
      ],
    );

ListTile _tile(String title, String subtitle, IconData icon) => ListTile(
      title: Text(title,
          style: TextStyle(
            fontWeight: FontWeight.w500,
            fontSize: 20,
          )),
      subtitle: Text(subtitle),
      leading: Icon(
        icon,
        color: Colors.blue[500],
      ),
    );
```

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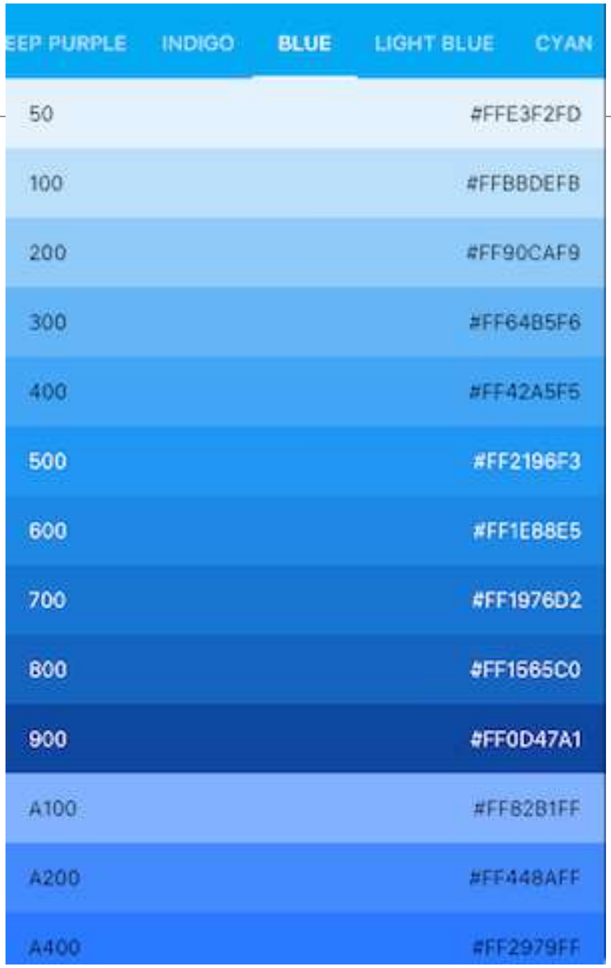
Examples (ListView)



50	#FFE3F2FD
100	#FFBBDEFB
200	#FF90CAF9
300	#FF64B5F6
400	#FF42A5F5
500	#FF2196F3
600	#FF1E88E5
700	#FF1976D2
800	#FF1565C0
900	#FF0D47A1
A100	#FF82B1FF
A200	#FF448AFF
A400	#FF2979FF

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Examples (ListView)

Uses ListView to display the Colors from the Material Design palette for a particular color family.

Check git link for Dart code: colors_demo.dart from the Flutter Gallery

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Stack

Use Stack to arrange widgets on top of a base widget—often an image. The widgets can completely or partially overlap the base widget.

Summary (Stack)

- Use for widgets that overlap another widget
- The first widget in the list of children is the base widget; subsequent children are overlaid on top of that base widget
- A Stack's content can't scroll
- You can choose to clip children that exceed the render box

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Examples (Stack)

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Examples (Stack)

Uses Stack to overlay a Container (that displays its Text on a translucent black background) on top of a CircleAvatar. The Stack offsets the text using the alignment property and Alignments.

Check git link for App source: card_and_stack

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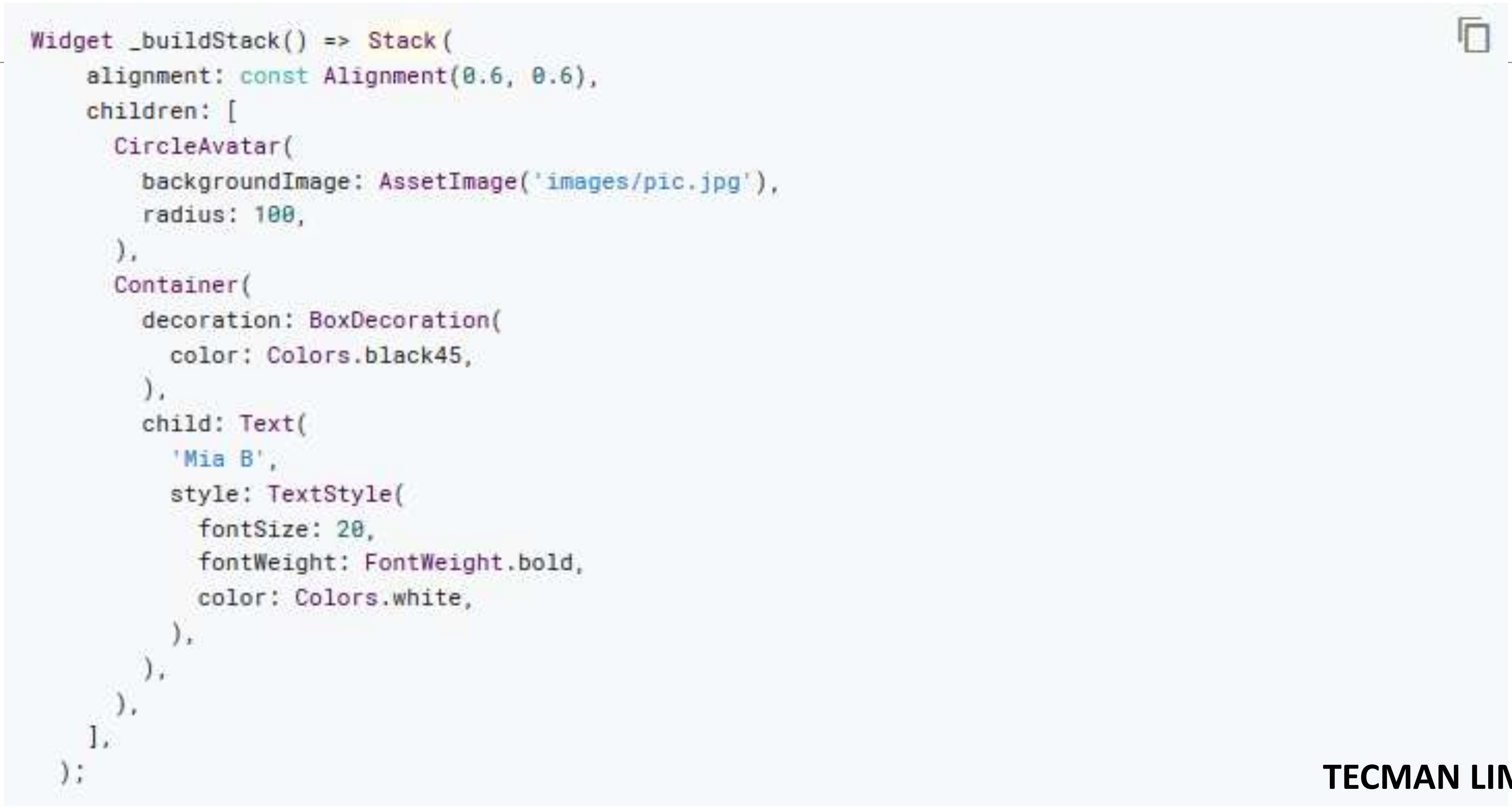
Examples (Stack)



```
Widget _buildStack() => Stack(
    alignment: const Alignment(0.6, 0.6),
    children: [
      CircleAvatar(
        backgroundImage: AssetImage('images/pic.jpg'),
        radius: 100,
      ),
      Container(
        decoration: BoxDecoration(
          color: Colors.black45,
        ),
        child: Text(
          'Mia B',
          style: TextStyle(
            fontSize: 20,
            fontWeight: FontWeight.bold,
            color: Colors.white,
          ),
        ),
      ),
    ],
  );
```

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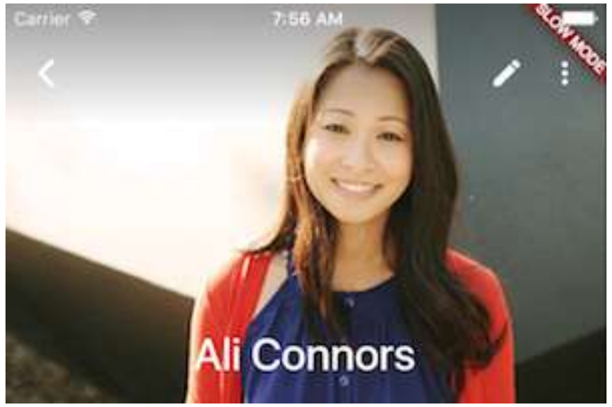
Examples (Stack)



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Examples (Stack)

Uses Stack to overlay a gradient to the top of the image. The gradient ensures that the toolbar’s icons are distinct against the image.

Check git link for Dart code: contacts_demo.dart from the Flutter Gallery

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Card

A Card, from the Material library, contains related nuggets of information and can be composed from almost any widget, but is often used with ListTile. Card has a single child, but its child can be a column, row, list, grid, or other widget that supports multiple children. By default, a Card shrinks its size to 0 by 0 pixels. You can use SizedBox to constrain the size of a card.

Card

In Flutter, a Card features slightly rounded corners and a drop shadow, giving it a 3D effect. Changing a Card's elevation property allows you to control the drop shadow effect. Setting the elevation to 24, for example, visually lifts the Card further from the surface and causes the shadow to become more dispersed. For a list of supported elevation values, see Elevation in the Material guidelines. Specifying an unsupported value disables the drop shadow entirely.

Card

Summary (Card)

- Implements a Material card
- Used for presenting related nuggets of information
- Accepts a single child, but that child can be a Row, Column, or other widget that holds a list of children
- Displayed with rounded corners and a drop shadow
- A Card's content can't scroll
- From the Material library

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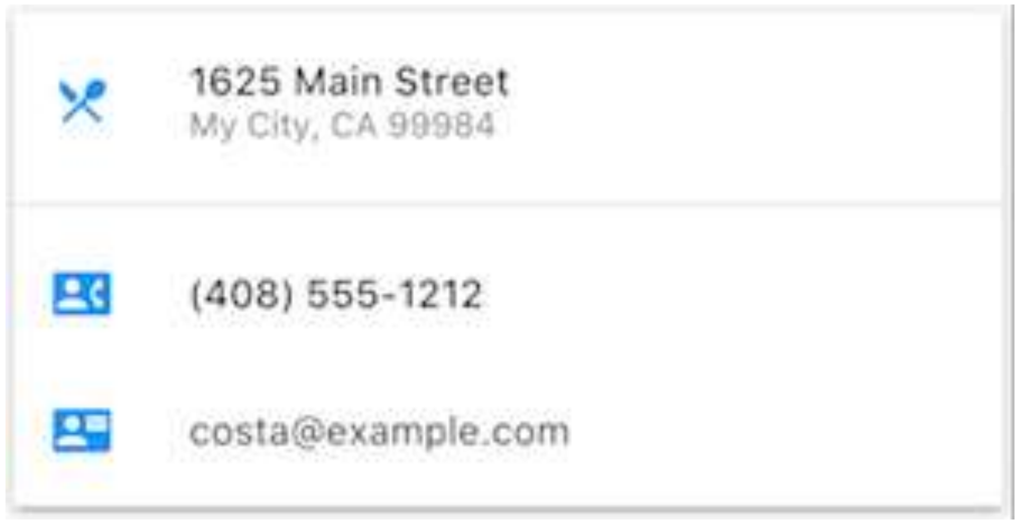
Example Card

A Card containing 3 ListTiles and sized by wrapping it with a SizedBox. A Divider separates the first and second ListTiles.

Check git link for App source: card_and_stack



1625 Main Street
My City, CA 99984

(408) 555-1212

costa@example.com

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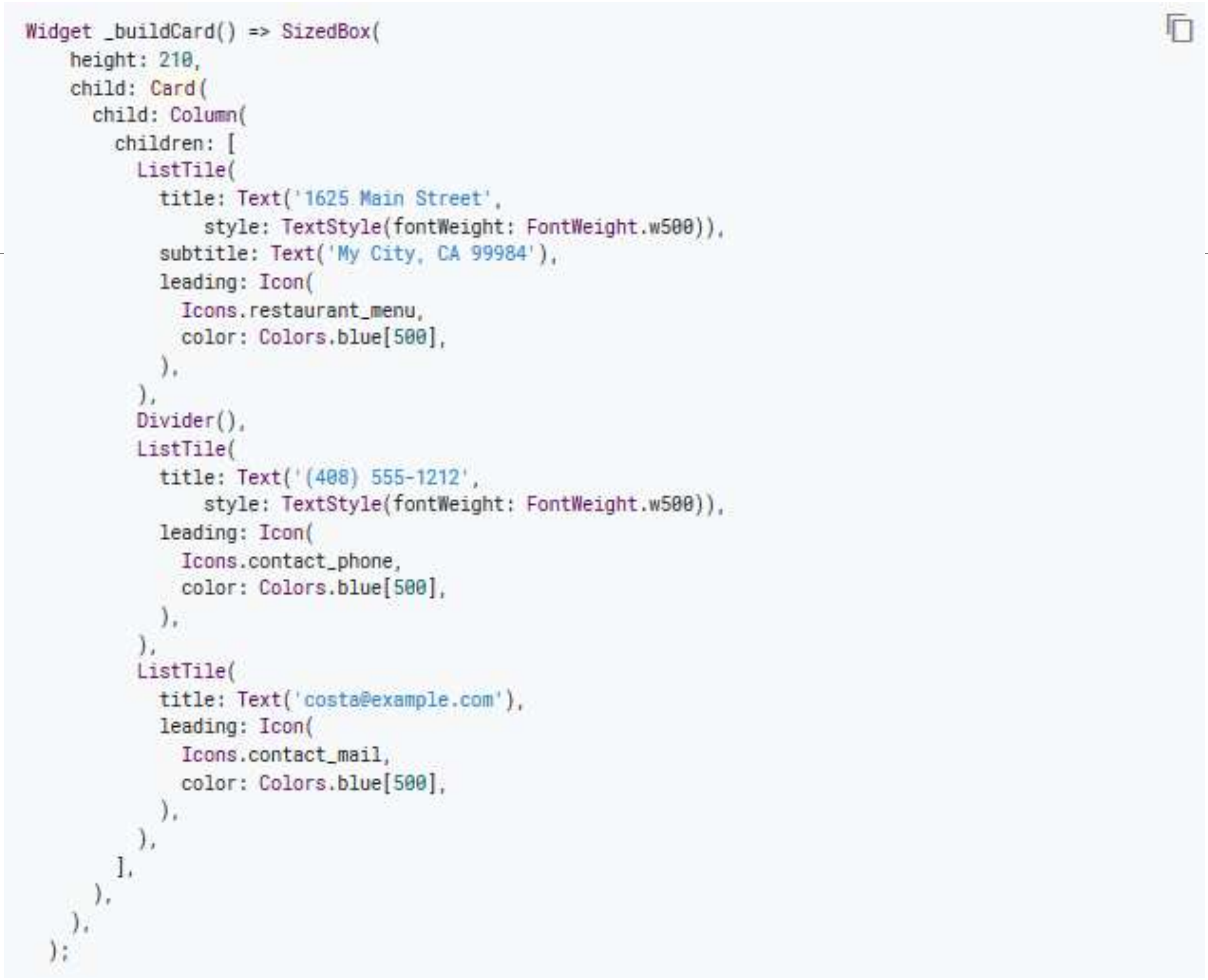
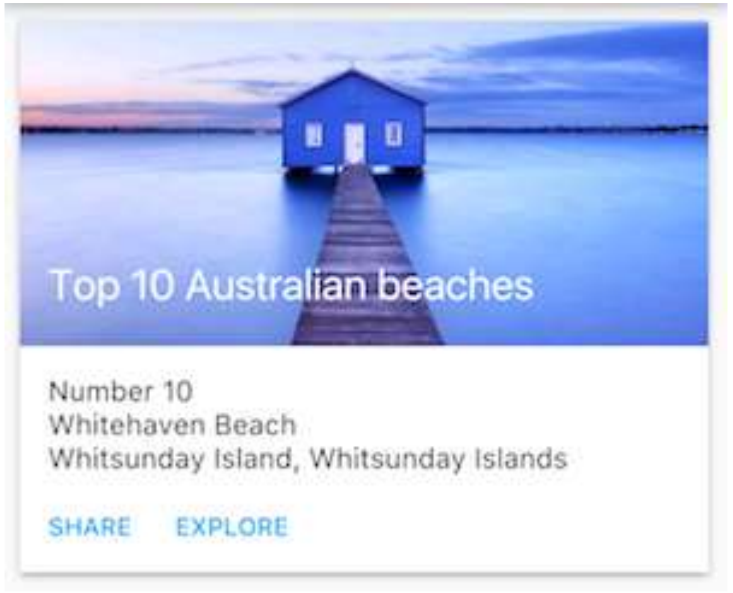


```
Widget _buildCard() => SizedBox(
  height: 210,
  child: Card(
   child: Column(
    children: [
     ListTile(
      title: Text('1625 Main Street',
        style: TextStyle(fontWeight: FontWeight.w500)),
      subtitle: Text('My City, CA 99984'),
      leading: Icon(
       Icons.restaurant_menu,
       color: Colors.blue[500],
      ),
     ),
     Divider(),
     ListTile(
      title: Text('(408) 555-1212',
        style: TextStyle(fontWeight: FontWeight.w500)),
      leading: Icon(
       Icons.contact_phone,
       color: Colors.blue[500],
      ),
     ),
     ListTile(
      title: Text('costa@example.com'),
      leading: Icon(
       Icons.contact_mail,
       color: Colors.blue[500],
      ),
     ),
    ],
   ),
  ),
 );
```

Example Card

A Card containing an image and text.

Check git link for Dart code: cards_demo.dart from the Flutter Gallery



Number 10
Whitehaven Beach
Whitsunday Island, Whitsunday Islands

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ListTile

Use ListTile, a specialized row widget from the Material library, for an easy way to create a row containing up to 3 lines of text and optional leading and trailing icons. ListTile is most commonly used in Card or ListView, but can be used elsewhere.

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Summary (ListTile)

A specialized row that contains up to 3 lines of text and optional icons

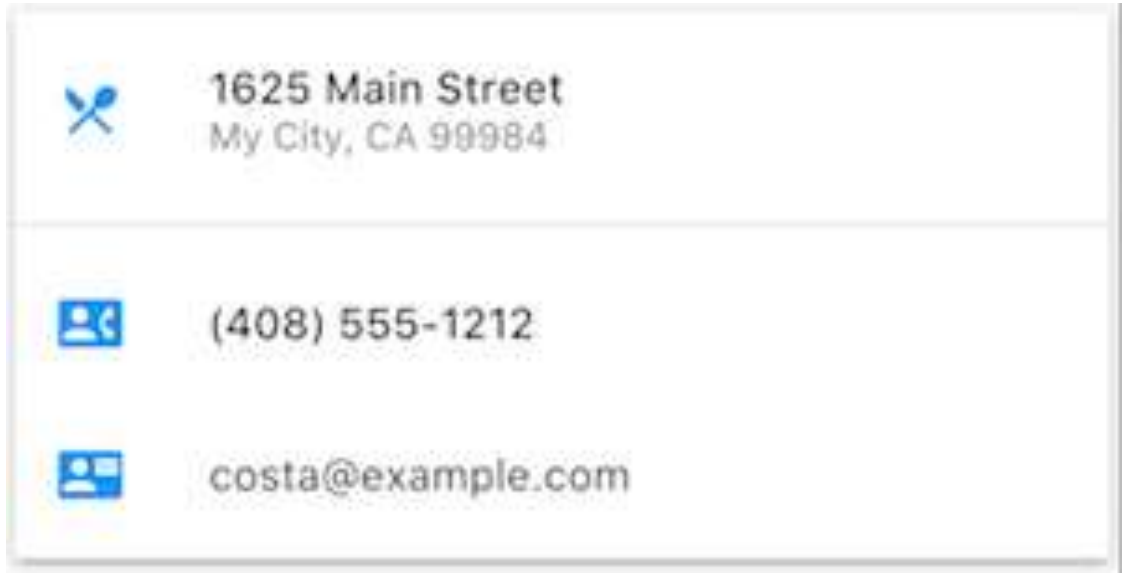
Less configurable than Row, but easier to use

From the Material library

Example ListTile

A Card containing 3 ListTiles.

Check git link for App source: card_and_stack



1625 Main Street
My City, CA 99984

(408) 555-1212

costa@example.com

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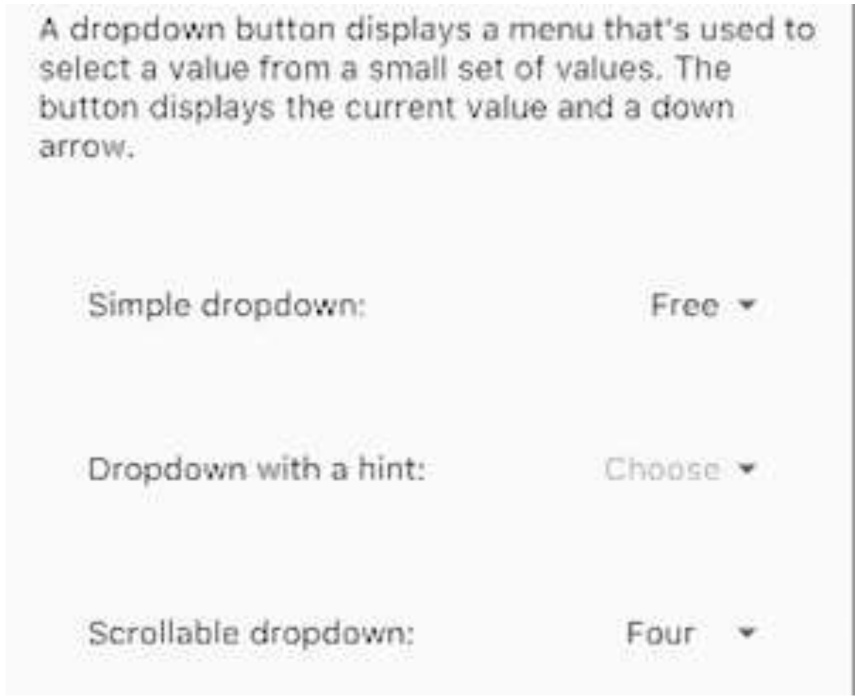
Example ListTile

Uses ListTile to list 3 drop down button types.
Check git link for **Dart code:** [buttons_demo.dart]() from the [Flutter Gallery]()



A dropdown button displays a menu that's used to select a value from a small set of values. The button displays the current value and a down arrow.

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THANK YOU

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