# Layout Widgets

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# Align

### Constructors

Align({Key key, AlignmentGeometry alignment: Alignment.center, double widthFactor, double heightFactor, Widget child})

Creates an alignment widget. [...]

### Properties

<u>alignment</u> → <u>AlignmentGeometry</u> How to align the child. [...] <u>heightFactor</u> → <u>double</u>

If non-null, sets its height to the child's height multiplied by this factor. [...]

<u>widthFactor</u> → <u>double</u>

If non-null, sets its width to the child's width multiplied by this factor. [...]

### topRight



# topRight

```
Center(
  child: Container(
    height: 120.0,
    width: 120.0,
    color: Colors.blue[50],
    child: Align(
       alignment: Alignment.topRight,
       child: FlutterLogo(
          size: 60,
       ),
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    (limit of the properties of the p
```



```
Center(
  child: Container(
    height: 120.0,
    width: 120.0,
    color: Colors.blue[50],
    child: Align(
       alignment: Alignment(0.2, 0.6),
       child: FlutterLogo(
            size: 60,
       ),
    ),
    ),
    ),
    ),
}
```



# AspectRatio

### Constructors

```
<u>AspectRatio</u>({<u>Key</u> key, @required <u>double</u> aspectRatio, <u>Widget</u> child})
```

Creates a widget with a specific aspect ratio. [...]

### **Properties**

```
<u>aspectRatio</u> → <u>double</u>
```

The aspect ratio to attempt to use. [...]



# Baseline

A widget that positions its child according to the child's baseline.

Constructors

Baseline({Key key, @required double baseline, @required TextBaseline baselineType, Widget child})

Creates a widget that positions its child according to the child's baseline. [...]

Properties

baseline  $\rightarrow$  double

The number of logical pixels from the top of this box at which to position the child's baseline.

baselineType → TextBaseline

The type of baseline to use for positioning the child.

## ConstrainedBox

```
ConstrainedBox(
  constraints: const BoxConstraints.expand(),
  child: const Card(child: Text('Hello World!')),
)
```

### Constructors

<u>ConstrainedBox</u>({<u>Key</u> key, @required <u>BoxConstraints</u> constraints, <u>Widget</u> child})

Creates a widget that imposes additional constraints on its child. [...]

### **Properties**

<u>constraints</u> → <u>BoxConstraints</u>

The additional constraints to impose on the child.



# Container

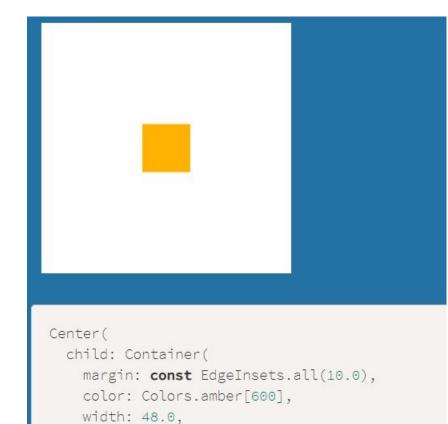
### Constructors

Container({Key key, AlignmentGeometry alignment, EdgeInsetsGeometry padding, Color color, Decoration decoration, Decoration foregroundDecoration, double width, double height, BoxConstraints constraints, EdgeInsetsGeometry margin, Matrix4 transform, Widget child})

### **Properties**

alignment  $\rightarrow$  AlignmentGeometry. Align the child within the container. [...] child  $\rightarrow$  Widget. The child contained by the container. [...] constraints  $\rightarrow$  BoxConstraints. Additional constraints to apply to the child. [...] decoration  $\rightarrow$  Decoration. The decoration to paint behind the child. [...] foregroundDecoration  $\rightarrow$  Decoration. The decoration to paint in front of the child. margin  $\rightarrow$  EdgeInsetsGeometry. Empty space to surround the decoration and child.

padding  $\rightarrow$  EdgeInsetsGeometry. Empty space to inscribe inside the decoration. The child, if any, is placed inside transform  $\rightarrow$  Matrix4. The transformation matrix to apply before painting the container.



height: 48.0,



# FittedBox

### Constructors

<u>FittedBox</u>({<u>Key</u> key, <u>BoxFit</u> fit: BoxFit.contain, <u>AlignmentGeometry</u> alignment: Alignment.center, <u>Widget</u> child}) Creates a widget that scales and positions its child within itself according to fit. [...]

### **Properties**

<u>alignment</u> → <u>AlignmentGeometry</u>

How to align the child within its parent's bounds. [...]

### $fit \rightarrow BoxFit$

How to inscribe the child into the space allocated during layout.



# Expanded

### Constructors

Expanded({Key key, int flex: 1, @required Widget child})

Creates a widget that expands a child of a Row, Column, or Flex so that the child fills the available space along the flex widget's main axis.

const

### **Properties**

*child* → Widget

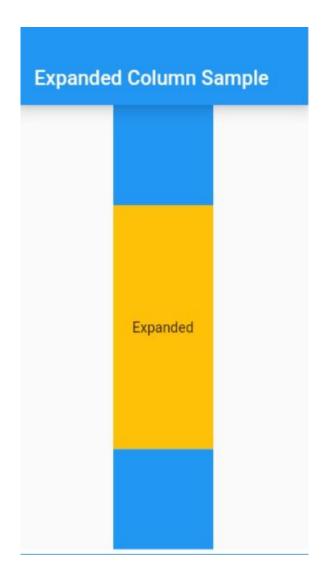
The widget below this widget in the tree. [...]

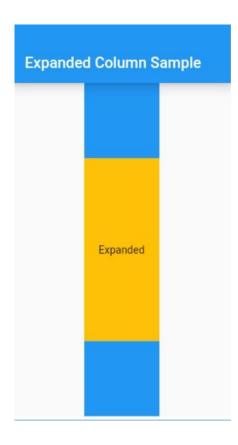
*fit* → FlexFit

How a flexible child is inscribed into the available space. [...]

 $\underline{\textit{flex}} \rightarrow \underline{\mathsf{int}}$ 

The flex factor to use for this child [...]





```
Widget build(BuildContext context) {
 return Scaffold(
   appBar: AppBar(
    title: Text('Expanded Column Sample'),
    body: Center(
        child: Column(
           children: <Widget>[
            Container(
                color: Colors.blue,
                height: 100,
                width: 100,
            Expanded(
                child: Container(
                    color: Colors.amber,
                    width: 100,
                    ),
            Container(
               color: Colors.blue,
               height: 100,
               width: 100,
```



# CustomSingleChildLayout

A widget that defers the layout of its single child to a delegate.

### Constructors

<u>CustomSingleChildLayout</u>({<u>Key</u> key, @required <u>SingleChildLayoutDelegate</u> delegate, <u>Widget</u> child}) Creates a custom single child layout. [...]

### Properties

<u>delegate</u> → <u>SingleChildLayoutDelegate</u>

The delegate that controls the layout of the child.

```
class _MySingleChildLayoutDelegate extends SingleChildLayoutDelegate {
 _MySingleChildLayoutDelegate({@required this.widgetSize});
 final Size widgetSize;
 @override
 BoxConstraints getConstraintsForChild(BoxConstraints constraints) {
  //we expand the layout to our predefined sizes
  return BoxConstraints.expand(width: 120.0, height: 120.0);
 @override
 Offset getPositionForChild(Size size, Size childSize) {
  return Offset(widgetSize.width / 4, widgetSize.height / 4);
 @override
 bool shouldRelayout(_MySingleChildLayoutDelegate oldDelegate) {
  return widgetSize != oldDelegate.widgetSize;
```

# FractionallySizedBox

### Constructors

<u>FractionallySizedBox</u>(<u>{Key key, AlignmentGeometry alignment: Alignment.center, double widthFactor, double heightFactor, Widget child}</u>)

Creates a widget that sizes its child to a fraction of the total available space. [...]

```
Properties

<u>alignment</u> → <u>AlignmentGeometry</u>

How to align the child. [...]

<u>heightFactor</u> → <u>double</u>

If non-null, the fraction of the incoming height given to the child. [...]

<u>widthFactor</u> → <u>double</u>

If non-null, the fraction of the incoming width given to the child. [...]
```



# IntrinsicHeight/IntrinsicWidth

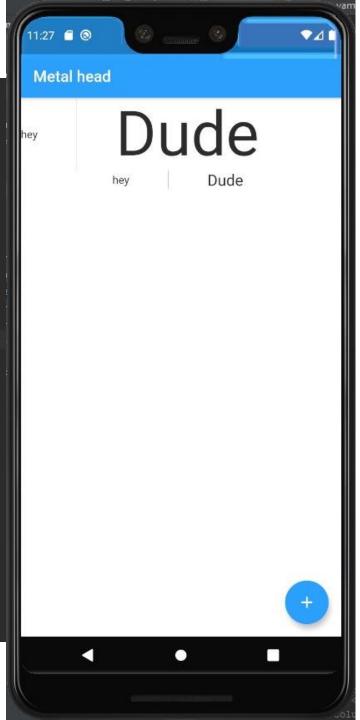
A widget that sizes its child to the child's intrinsic height.

A widget that sizes its child to the child's intrinsic width.

```
child: Column (
                     children: <Widget>[
                       IntrinsicHeight (
                       -child: Row(
                           children: <Widget>[
                          — Text('hey'),
                           VerticalDivider(
120
                               color: Colors.black,
                               width: 100,), // VerticalDivider
                          — Text('Dude', style: TextStyle(fontSize: 80),)
12€
                       IntrinsicWidth (
                         stepWidth: 8,
                         stepHeight: 0.1,
                       -child: Row(
                           children: <Widget>[
                          — Text('hey'),

    VerticalDivider(

133
                               color: Colors.black,
                               width: 100,), // VerticalDivider
                          — Text('Dude', style: TextStyle(fontSize:20),)
                       , // IntrinsicWidth
```



# LimitedBox

### Constructors

<u>LimitedBox</u>({<u>Key</u> key, <u>double</u> maxWidth: double.infinity, <u>double</u> maxHeight: double.infinity, <u>Widget</u> child}) Creates a box that limits its size only when it's unconstrained. [...]

### **Properties**

<u>maxHeight</u> → <u>double</u>

The maximum height limit to apply in the absence of a **BoxConstraints.maxHeight** constraint.

### $\underline{\mathsf{maxWidth}} \to \underline{\mathsf{double}}$

The maximum width limit to apply in the absence of a **BoxConstraints.maxWidth** constraint.



# Offstage

A widget that lays the child out as if it was in the tree, but without painting anything, without making the child available for hit testing, and without taking any room in the parent.

Animations continue to run in offstage children, and therefore use battery and CPU time, regardless of whether the animations end up being visible.

Offstage can be used to measure the dimensions of a widget without bringing it on screen (yet). To hide a widget from view while it is not needed, prefer removing the widget from the tree entirely rather than keeping it alive in an Offstage subtree.

### Constructors

```
Offstage({Key key, bool offstage: true, Widget child})
Creates a widget that visually hides its child.

const
```

### **Properties**

 $\underline{\text{offstage}} \to \underline{\text{bool}}$ 

Whether the child is hidden from the rest of the tree. [...] final

# OverflowBox

A widget that imposes different constraints on its child than it gets from its parent, possibly allowing the child to overflow the parent.

### Constructors

OverflowBox({Key key, AlignmentGeometry alignment: Alignment.center, double minWidth, double maxWidth, double minHeight, double maxHeight, Widget child})

Creates a widget that lets its child overflow itself.

### **Properties**

### <u>alignment</u> → <u>AlignmentGeometry</u>

How to align the child. [...]

### maxHeight → double

The maximum height constraint to give the child. Set this to null (the default) to use the constraint from the parent instead.

### maxWidth → double

The maximum width constraint to give the child. Set this to null (the default) to use the constraint from the parent instead.

### minHeight → double

The minimum height constraint to give the child. Set this to null (the default) to use the constraint from the parent instead.

### <u>minWidth</u> → <u>double</u>

The minimum width constraint to give the child. Set this to null (the default) to use the constraint from the parent instead.

# Padding

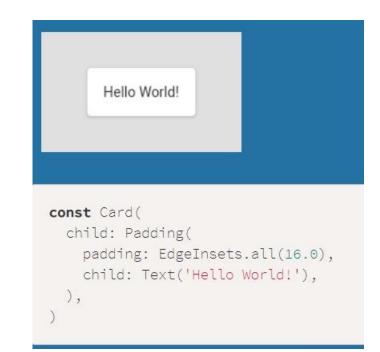
### Constructors

Padding({Key key, @required <u>EdgeInsetsGeometry</u> padding, <u>Widget</u> child})
Creates a widget that insets its child. [...]

### **Properties**

<u>padding</u> → <u>EdgeInsetsGeometry</u>

The amount of space by which to inset the child.



# EdgeInsets

```
Constructors
EdgeInsets.all(double value)
Creates insets where all the offsets are value. [...]
EdgeInsets.fromLTRB(double left, double top, double right, double bottom)
Creates insets from offsets from the left, top, right, and bottom.
<u>EdgeInsets.fromWindowPadding(WindowPadding</u> padding, <u>double</u> devicePixelRatio)
Creates insets that match the given window padding. [...]
EdgeInsets.only({double left: 0.0, double top: 0.0, double right: 0.0, double bottom: 0.0})
Creates insets with only the given values non-zero. [...]
EdgeInsets.symmetric({double vertical: 0.0, double horizontal: 0.0})
Creates insets with symmetrical vertical and horizontal offsets. [...]
```

# SizedBox

```
SizedBox(
  width: 200.0,
  height: 300.0,
  child: const Card(child: Text('Hello World!')),
)
```

A box with a specified size.

### Constructors

<u>SizedBox({Key key, double width, double height, Widget child})</u>

Creates a fixed size box. The width and height parameters can be null to indicate that the size of the box should not be constrained in the corresponding dimension.

<u>SizedBox.expand({Key key, Widget child})</u>

Creates a box that will become as large as its parent allows.

SizedBox.fromSize({Key key, Widget child, Size size})

Creates a box with the specified size.

<u>SizedBox.shrink({Key key, Widget child})</u>

Creates a box that will become as small as its parent allows.



# SizedOverflowBox

A widget that is a specific size but passes its original constraints through to its child, which may then overflow.

### Constructors

<u>SizedOverflowBox</u>({<u>Key</u> key, @required <u>Size</u> size, <u>AlignmentGeometry</u> alignment: Alignment.center, <u>Widget</u> child}) Creates a widget of a given size that lets its child overflow. [...]

### Properties

<u>alignment</u> → <u>AlignmentGeometry</u> How to align the child. [...]

<u>size</u> → <u>Size</u>

The size this widget should attempt to be.

# Transform

### Constructors

<u>Transform</u>({<u>Key</u> key, @required <u>Matrix4</u> transform, <u>Offset</u> origin, <u>AlignmentGeometry</u> alignment, <u>bool</u> transformHitTests: true, <u>Widget</u> child})

Creates a widget that transforms its child. [...]

<u>Transform.rotate</u>({<u>Key</u> key, @required <u>double</u> angle, <u>Offset</u> origin, <u>AlignmentGeometry</u> alignment: Alignment.center, <u>bool</u> transformHitTests: true, <u>Widget</u> child})

Creates a widget that transforms its child using a rotation around the center. [...]

<u>Transform.scale</u>({<u>Key</u> key, @required <u>double</u> scale, <u>Offset</u> origin, <u>AlignmentGeometry</u> alignment: Alignment.center, <u>bool</u> transformHitTests: true, <u>Widget</u> child})

Creates a widget that scales its child uniformly. [...]

<u>Transform.translate</u>({<u>Key</u> key, @required <u>Offset</u> offset, <u>bool</u> transformHitTests: true, <u>Widget</u> child})

Creates a widget that transforms its child using a translation. [...]

### **Properties**

### <u>alignment</u> → <u>AlignmentGeometry</u>

The alignment of the origin, relative to the size of the box. [...]

### <u>origin</u> → <u>Offset</u>

The origin of the coordinate system (relative to the upper left corder of this render object) in which to apply the matrix. [...]

### <u>transform</u> → <u>Matrix4</u>

The matrix to transform the child by during painting.

### $\underline{transformHitTests} \rightarrow \underline{bool}$

Whether to apply the transformation when performing hit tests.



# Transform power

```
Class ImageRotate extends StatefulWidget {
    @override
    _MetalHead createState() => new _MetalHead();
}

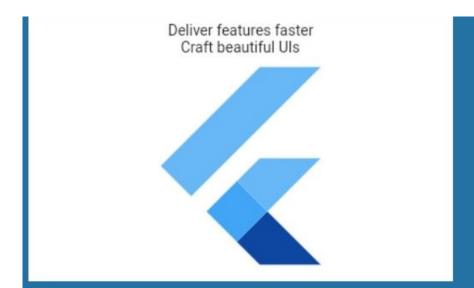
class _MetalHead extends State<ImageRotate>
    with SingleTickerProviderStateMixin {
    AnimationController animationController;

    @override
    void initState() {
        super.initState();
        animationController = new AnimationController(
        vsync: this,
            duration: new Duration(seconds: 4),
        ); // AnimationController
        animationController.repeat();
}
```

```
Widget build (BuildContext context) {
  return Stack (
    alignment: Alignment.center,
    children: <Widget>[
   new Container (
    -child: Padding (
      padding: EdgeInsets.fromLTRB(0, 120, 0, 0),
     -child: new Image.asset('images/body.png')
   new Container (
    alignment: Alignment.center,
    child: new AnimatedBuilder(
     -child: new Container(
       height: 150.0,
      -child: new Image.asset('images/head.png'),
     builder: (BuildContext context, Widget widget
     — return new Transform.rotate(
```



## Column





Column({Key key,

MainAxisAlignment mainAxisAlignment: MainAxisAlignment.start,

MainAxisSize mainAxisSize: MainAxisSize.max,

CrossAxisAlignment crossAxisAlignment: CrossAxisAlignment.center,

<u>TextDirection</u> textDirection,

Vertical Direction vertical Direction: Vertical Direction.down,

TextBaseline textBaseline,

List<Widget> children: const []})

Creates a vertical array of children. [...]

## CustomMultiChildLayout

A widget that uses a delegate to size and position multiple children.

### Constructors

<u>CustomMultiChildLayout({Key</u> key, @required <u>MultiChildLayoutDelegate</u> delegate, <u>List<Widget></u> children: const []})

Creates a custom multi-child layout. [...]

### Flow

A widget that sizes and positions children efficiently, according to the logic in a <u>FlowDelegate</u>.

Flow layouts are optimized for repositioning children using transformation matrices.

### Constructors

<u>Flow({Key key, @required FlowDelegate delegate, List<Widget> children: const []})</u>

Creates a flow layout. [...]

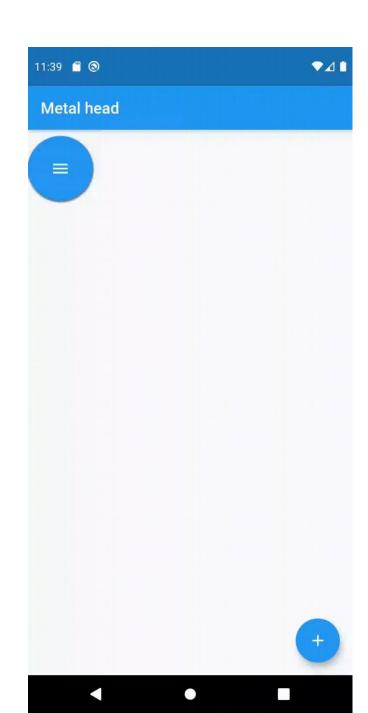
<u>Flow.unwrapped({Key key, @required FlowDelegate delegate, List<Widget></u> children: const []})

Creates a flow layout. [...]

### **Properties**

<u>delegate</u> → <u>FlowDelegate</u>

The delegate that controls the transformation matrices of the children.



```
class FlowMenu extends StatefulWidget {
 @override
 _FlowMenuState createState() => _FlowMenuState();
class _FlowMenuState extends State<FlowMenu> with SingleTickerProviderStateMixin {
 AnimationController menuAnimation;
 lconData lastTapped = lcons.notifications;
 final List<IconData> menuItems = <IconData>[
  Icons. home,
  Icons.new releases,
  Icons. notifications,
  Icons.settings,
  Icons.menu,
 void _updateMenu(IconData icon) {
  if (icon != Icons.menu)
   setState(() => lastTapped = icon);
```

```
@override
void initState() {
 super.initState();
 menuAnimation = AnimationController(
  duration: const Duration(milliseconds: 250),
  vsync: this,
@override
Widget <a href="build">build</a>(BuildContext context) {
 return Container(
  child: Flow(
   delegate: FlowMenuDelegate(menuAnimation: menuAnimation),
   children: menultems.map<Widget>((IconData icon) => flowMenuItem(icon)).toList(),
```

```
Widget flowMenuItem(IconData icon) {
 final double buttonDiameter = MediaQuery.of(context).size.width / menultems.length;
 return Padding(
  padding: const EdgeInsets.symmetric(vertical: 8.0),
  child: RawMaterialButton(
   fillColor: lastTapped == icon ? Colors.amber[700] : Colors.blue,
   splashColor: Colors.amber[100],
   shape: CircleBorder(),
   constraints: BoxConstraints.tight(Size(buttonDiameter, buttonDiameter)),
   onPressed: () {
    _updateMenu(icon);
    menuAnimation.status == AnimationStatus.completed
       ? menuAnimation.reverse()
       : menuAnimation.forward();
   child: Icon(
    icon,
    color: Colors. white,
    size: 25.0,
```

```
class FlowMenuDelegate extends FlowDelegate {
 FlowMenuDelegate({this.menuAnimation}): super(repaint: menuAnimation);
 final Animation<double> menuAnimation;
 @override
 bool shouldRepaint(FlowMenuDelegate oldDelegate) {
  return menuAnimation != oldDelegate.menuAnimation;
 @override
 void paintChildren(FlowPaintingContext context) {
  double dx = 0.0;
  for (int i = 0; i < context.childCount; ++i) {</pre>
   dx = context.getChildSize(i).width * i;
   context.paintChild(
    transform: Matrix4.translationValues(
     dx * menuAnimation.value,
     0,
```

## GridView

A scrollable, 2D array of widgets.



GridView({Key key, Axis scrollDirection: Axis.vertical, bool reverse: false, ScrollController controller, bool primary, ScrollPhysics physics, bool shrinkWrap: false, EdgeInsetsGeometry padding, @required SliverGridDelegate gridDelegate, bool addAutomaticKeepAlives: true, bool addRepaintBoundaries: true, bool addSemanticIndexes: true, <u>double</u> cacheExtent, <u>List<Widget</u>> children: const [], <u>int</u> semanticChildCount}) Creates a scrollable, 2D array of widgets with a custom SliverGridDelegate. [...]

GridView.builder({Key key, Axis scrollDirection: Axis.vertical, bool reverse: false, ScrollController controller, bool primary, ScrollPhysics physics, bool shrinkWrap: false, EdgeInsetsGeometry padding, @required SliverGridDelegate gridDelegate, @required IndexedWidgetBuilder itemBuilder, int itemCount, bool addAutomaticKeepAlives: true, bool addRepaintBoundaries: true, bool addSemanticIndexes: true, double cacheExtent, int semanticChildCount}) Creates a scrollable, 2D array of widgets that are created on demand. [...]

<u>GridView.count({Key key, Axis scrollDirection: Axis.vertical, bool reverse: false, ScrollController controller, bool primary, and the scroll of the scroll </u> ScrollPhysics physics, bool shrinkWrap: false, EdgeInsetsGeometry padding, @required int crossAxisCount, double mainAxisSpacing: 0.0, double crossAxisSpacing: 0.0, double childAspectRatio: 1.0, bool addAutomaticKeepAlives: true, bool addRepaintBoundaries: true, bool addSemanticIndexes: true, double cacheExtent, List<Widget> children: const [], int semanticChildCount, <a href="DragStartBehavior">DragStartBehavior</a>. dragStartBehavior: DragStartBehavior.start)) Creates a scrollable, 2D array of widgets with a fixed number of tiles in the cross axis. [...]

GridView.custom({Key key, Axis scrollDirection: Axis.vertical, bool reverse: false, ScrollController controller, bool primary, ScrollPhysics physics, bool shrinkWrap: false, EdgeInsetsGeometry padding, @required SliverGridDelegate gridDelegate, @required SliverChildDelegate childrenDelegate, double cacheExtent, int semanticChildCount, DragStartBehavior dragStartBehavior: DragStartBehavior.start})

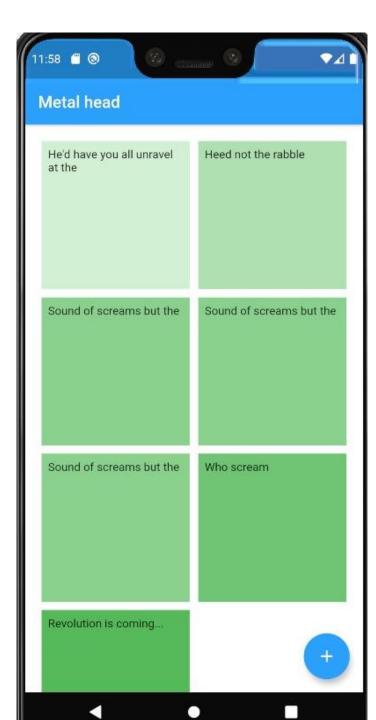
Creates a scrollable, 2D array of widgets with both a custom SliverGridDelegate and a custom SliverChildDelegate. [...]

GridView.extent({Key key, Axis scrollDirection: Axis.vertical, bool reverse: false, ScrollController controller, bool primary, ScrollPhysics physics, bool shrinkWrap: false, EdgeInsetsGeometry padding, @required double maxCrossAxisExtent, double mainAxisSpacing: 0.0, double crossAxisSpacing: 0.0, double childAspectRatio: 1.0, bool addAutomaticKeepAlives: true, bool addRepaintBoundaries: true, bool addSemanticIndexes: true, List<Widget> children: const [], int semanticChildCount, DragStartBehavior dragStartBehavior: DragStartBehavior.start}) Creates a scrollable, 2D array of widgets with tiles that each have a maximum cross-axis extent. [...]

```
Widget simpleGridView() {
  return CustomScrollView(
    primary: false,
    slivers: <Widget>[

    SliverPadding(

        padding: const EdgeInsets.all(20),
        sliver: SliverGrid.count(
          crossAxisSpacing: 10,
          mainAxisSpacing: 10,
          crossAxisCount: 2,
          children: <Widget>[
         — Container (...), // Container
          — Container(...), // Container
          — Container(...), // Container
          — Container(...), // Container
          - Container (...), // Container
          - Container (...), // Container
            Container (...), // Container
```



## IndexedStack

A <u>Stack</u> that shows a single child from a list of children.

Constructors

IndexedStack({

Key key,

AlignmentGeometry alignment: AlignmentDirectional.topStart,

TextDirection textDirection,

StackFit sizing: StackFit.loose,

int index: 0,

List<Widget> children: const []})

Creates a <u>Stack</u> widget that paints a single child. [...]

### Properties

 $\underline{\mathsf{index}} \to \underline{\mathsf{int}}$ 

The index of the child to show.



# LayoutBuilder

Builds a widget tree that can depend on the parent widget's size

### Constructors

```
<u>LayoutBuilder</u>({<u>Key</u> key, <u>LayoutWidgetBuilder</u> builder})

Creates a widget that defers its building until layout. [...]

const
```

### Properties

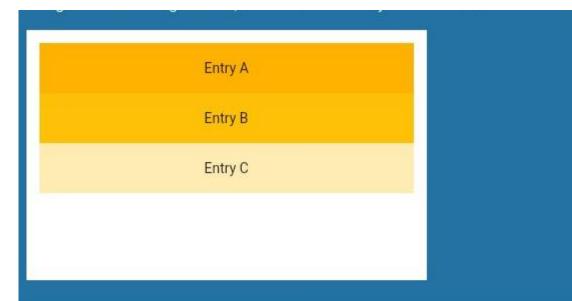
```
<u>builder</u> → <u>LayoutWidgetBuilder</u>
```

Called at layout time to construct the widget tree. [...]



### ListView

A scrollable list of widgets arranged linearly.



```
final List<String> entries = <String>['A', 'B', 'C'];
final List<int> colorCodes = <int>[600, 500, 100];

ListView.builder(
  padding: const EdgeInsets.all(8),
  itemCount: entries.length,
  itemBuilder: (BuildContext context, int index) {
    return Container(
     height: 50,
     color: Colors.amber[colorCodes[index]],
     child: Center(child: Text('Entry ${entries[index]}')),
    );
}
```

<u>ListView({Key key, Axis scrollDirection: Axis.vertical, bool reverse: false, ScrollController controller, bool primary, ScrollP ysics physics, bool shrinkWrap: false, EdgeInsetsGeometry padding, double itemExtent, bool addAutomaticKeepAlives: rue, bool addRepaintBoundaries: true, bool addSemanticIndexes: true, double cacheExtent, List<Widget> children: cons [], int semanticChildCount, DragStartBehavior dragStartBehavior: DragStartBehavior.start})</u>

Creates a scrollable, linear array of widgets from an explicit List. [...]

<u>ListView.builder</u>({<u>Key</u> key, <u>Axis</u> scrollDirection: Axis.vertical, <u>bool</u> reverse: false, <u>ScrollController</u> controller, <u>bool</u> primary, <u>ScrollPhysics</u> physics, <u>bool</u> shrinkWrap: false, <u>EdgeInsetsGeometry</u> padding, <u>double</u> itemExtent, @required <u>IndexedWiggetBuilder</u> itemBuilder, <u>int</u> itemCount, <u>bool</u> addAutomaticKeepAlives: true, <u>bool</u> addRepaintBoundaries: true, <u>bool</u> addSemanticIndexes: true, <u>double</u> cacheExtent, <u>int</u> semanticChildCount, <u>DragStartBehavior</u> dragStartBehavior: DragStartBehavior.

Creates a scrollable, linear array of widgets that are created on demand. [...]

<u>ListView.custom</u>({Key key, <u>Axis</u> scrollDirection: Axis.vertical, <u>bool</u> reverse: false, <u>ScrollController</u> controller, <u>bool</u> primary, <u>ScrollPhysics</u> physics, <u>bool</u> shrinkWrap: false, <u>EdgeInsetsGeometry</u> padding, <u>double</u> itemExtent, @required <u>SliverChildlegate</u> childrenDelegate, <u>double</u> cacheExtent, <u>int</u> semanticChildCount})

Creates a scrollable, linear array of widgets with a custom child model. [...]

<u>ListView.separated({Key key, Axis scrollDirection: Axis.vertical, bool reverse: false, ScrollController controller, bool primary, ScrollPhysics physics, bool shrinkWrap: false, EdgeInsetsGeometry padding, @required IndexedWidgetBuilder itemBilder, @required IndexedWidgetBuilder separatorBuilder, @required int itemCount, bool addAutomaticKeepAlives: true, ool addRepaintBoundaries: true, bool addSemanticIndexes: true, double cacheExtent})</u>

Creates a fixed-length scrollable linear array of list "items" separated by list item "separators". [...]



## Row

A widget that displays its children in a horizontal array.

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Row({
Key key,

MainAxisAlignment mainAxisAlignment: MainAxisAlignment.start,

MainAxisSize mainAxisSize: MainAxisSize.max,

**CrossAxisAlignment** crossAxisAlignment: CrossAxisAlignment.center,

<u>TextDirection</u> textDirection,

VerticalDirection verticalDirection: VerticalDirection.down,

<u>TextBaseline</u> textBaseline,

List<Widget> children: const []})

Creates a horizontal array of children. [...]

## Stack

A widget that positions its children relative to the edges of its box.

### Constructors

Stack({Key key,

AlignmentGeometry alignment: AlignmentDirectional.topStart,

**TextDirection** textDirection,

StackFit fit: StackFit.loose,

Overflow overflow: Overflow.clip,

<u>List</u><<u>Widget</u>> children: const []})

Creates a stack layout widget. [...]



```
Stack(
  children: <Widget>[
   Container(
     width: 100,
      height: 100,
      color: Colors.red,
   Container(
     width: 90,
      height: 90,
      color: Colors.green,
   Container(
     width: 80,
      height: 80,
      color: Colors.blue,
```



## **Table**

A widget that uses the table layout algorithm for its children.

```
Constructors

Table({Key key,
List<TableRow> children: const [],
Map<int, TableColumnWidth> columnWidths,
TableColumnWidth defaultColumnWidth: const FlexColumnWidth(1.0),
TextDirection textDirection,
TableBorder border,
TableCellVerticalAlignment defaultVerticalAlignment: TableCellVerticalAlignment.top,
TextBaseline textBaseline})
Creates a table. [...]
```



## Wrap

A widget that displays its children in multiple horizontal or vertical runs.

```
Constructors
Wrap({Key key,
Axis direction: Axis.horizontal,
WrapAlignment alignment: WrapAlignment.start,
double spacing: 0.0,
WrapAlignment runAlignment: WrapAlignment.start,
double runSpacing: 0.0,
WrapCrossAlignment crossAxisAlignment: WrapCrossAlignment.start,
TextDirection textDirection,
VerticalDirection verticalDirection: VerticalDirection.down,
List<Widget> children: const []})
Creates a wrap layout. [...]
```



```
alignment → WrapAlignment How the children within a run should be placed in the main axis. [...] <a href="mailto:crossAxisAlignment">crossAxisAlignment</a> → WrapCrossAlignment How the children within a run should be aligned relative to each other in the cross axis. [...] <a href="mailto:direction">direction</a> → Axis The direction to use as the main axis. [...] <a href="mailto:runAlignment">runAlignment</a> → WrapAlignment How the runs themselves should be placed in the cross axis. [...] <a href="mailto:runSpacing">runSpacing</a> → double How much space to place between the runs themselves in the cross axis. [...] <a href="mailto:spacing">spacing</a> → double How much space to place between children in a run in the main axis. [...] <a href="mailto:textDirection">textDirection</a> → TextDirection Determines the order to lay children out horizontally and how to interpret start and end in the horizontal direction. [...] <a href="mailto:verticalDirection">verticalDirection</a> → VerticalDirection Determines the order to lay children out vertically and how to interpret start and end in the vertical direction. [...]
```

