Flutter cheat Sheet

# Making Adaptive Screen

- **MediaQuery :-**

In Flutter, MediaQuery is a useful class that provides information about the current device's size and orientation. It allows you to create responsive designs by adapting your UI to different screen sizes and orientations.
Here's how you can use MediaQuery in Flutter:

1. **Accessing MediaQuery:**

You can access MediaQuery anywhere in your widget tree using the of method of the MediaQuery class. This method returns the nearest MediaQueryData object.

```
MediaQueryData mediaQueryData = MediaQuery.of(context);
```

**Getting Screen Size:**
You can obtain the screen size (width and height) using MediaQuery:

```
double screenWidth = mediaQueryData.size.width;
double screenHeight = mediaQueryData.size.height;
```

**Getting Device Orientation:**
You can check the orientation of the device (portrait or landscape) using MediaQuery:

```
bool isPortrait = mediaQueryData.orientation == Orientation.portrait;
```

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- **LayoutBuilder :-**

LayoutBuilder in Flutter is a widget that provides a builder function with constraints. These constraints represent the parent widget's layout constraints. It's particularly useful when you need to create a widget that adjusts its layout based on the available space.

```
LayoutBuilder(
 builder: (BuildContext context, BoxConstraints constraints) {
 // Use the constraints to build your widget
 return Container(
 color: Colors.blue,
 width: constraints.maxWidth,
 height: constraints.maxHeight,
 child: Center(
 child: Text(
 'This container fills the available space.',
 style: TextStyle(color: Colors.white), ),
 ), );
 },  )
```

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- **FittedBox :-**

In Flutter, the FittedBox widget is used to scale and fit its child within itself according to certain constraints. It's particularly useful when you want to ensure that a child widget remains within certain bounds and is scaled appropriately to fit those bounds, rather than overflowing or being clipped.

```
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(  appBar: AppBar(
        title: Text('FittedBox Example'),   ),
       body: Center(        child: Container(
          width: 200,
          height: 200,
          color: Colors.blue,
          child: FittedBox(
            fit: BoxFit.contain,
            child: Image.network(
              'https://via.placeholder.com/150',
            ),
          ),        ),       ),
    ),    );  }  }
```

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- **Flexible :-**

In Flutter, the Flexible widget is used to control how a child widget flexes its size to fill the available space within a Row, Column, or Flex container. It's often used in conjunction with Expanded or Spacer widgets to create flexible layouts.

```
class MyApp extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
  return MaterialApp(
   home: Scaffold(
    appBar: AppBar(
     title: Text('Flexible Example'),   ),
    body: Column(  children: [
      Container(   height: 100,
       color: Colors.blue,   child: Row(
        children: [
         Flexible(   flex: 1,
          child: Container(
           color: Colors.red,   ),   ),
         Flexible(    flex: 2,
          child: Container(
           color: Colors.green,    ),   ),
         Flexible(    flex: 1,
          child: Container(
           color: Colors.yellow,  ),   ),   ],   ),   ), ],  ),
  ),  );  }  }
```

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- **Screen util (Package) :-**

In Flutter, flutter_screenutil is a package that helps developers design UIs in a device-independent way. It allows you to set the size and position of widgets in your app based on the screen size and pixel density of the device. This helps ensure that your UI looks consistent across different devices with varying screen sizes and resolutions.

```
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    ScreenUtil.init(
      designSize: Size(360, 640),  allowFontScaling: false,    );

    return MaterialApp( home: Scaffold(  appBar: AppBar(
        title: Text('Screen Util Example'),   ),
       body: Center(  child: Container(
          width: 200.w,    height: 100.h,   color: Colors.blue,
          child: Text( 'Hello World',
                style: TextStyle(fontSize: 20.sp), // 20 font size
units relative to the design size
          ),
        ),   ),
     ),    );
  }  }
```