EXERCISE 09

Problem 1: Getting sensor data

Modify the SensorListeners app such that:

- The background color of the app changes in response to the light level.

TIP: You can use `getWindow().getDecorView().setBackgroundColor()` to set the app's background color.

- Place an `ImageView` or `Drawable` in the layout. Make the image larger or smaller based on the value that the app receives from the proximity sensor.

Problem 2: Sensor-based orientation

A general rule is to avoid doing a lot of work in the `onSensorChanged()` method, because the method runs on the main thread and may be called many times per second. In particular, the changes to the colors of the spot can look jerky if you're trying to do too much work in `onSensorChanged()`. Rewrite `onSensorChanged()` to use an `AsyncTask` object for all the calculations and updates to views.

Problem 3: Device location

Extend the location `TextView` to include the distance traveled from the first location obtained. (See the `distanceTo()` method.)

Problem 4: Places API

Add a place autocomplete search dialog UI element to your `Activity`. The place autocomplete dialog lets the user search for a place without launching the `PlacePicker`.

Problem 5: Google Maps

If you tap the info window for a POI in a location where there is no Street View coverage, you see a black screen.

- To check whether Street View is available in an area, implement the `OnStreetViewPanomaraReady` callback in combination with the `StreetViewPanorama.OnStreetViewPanoramaChangeListener`.
- If Street View isn't available in a selected area, go back to the map fragment and show an error.