# Programming Assignment 1

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*We have worked through Section 1 to obtain knowledge about Kotlin*

## Design Rational

This app was designed to keep track of points during a basketball game. It has two teams, Team A and Team B and a tracker for their current score. It then has six buttons to add the possible score combinations to their points. The app uses several linear layouts to align the buttons and labels vertically and horizontally. First, there is a vertical layout which stacks an inner layout and the reset button on top of each other. In the inner layout, there is a horizontal layout which organizes the two teams and a divider in the middle. Each team then has its own vertical layout. Inside there is the team label, the current score, then the buttons to add a free-throw, two points and three points all aligned vertically. Everything is then centered so the content appears in the center of the display. This layout provides a convenient and easy to use interface that doesn’t leave any room for confusion. It uses display pixels so it can react to different display sizes and still look as designed.

## Feature Screenshots

Graphical user interface, application, Teams

Description automatically generated

*Figure 1: Vertical layout of the app. Shows the six points buttons, team labels and scores*

Graphical user interface, application

Description automatically generated

*Figure 2: Horizontal layout of the app. Also shows buttons, team labels and scores*

*Diagram

Description automatically generated*

*Figure 3: Object Diagram of the basketball app*

*A screenshot of a computer

Description automatically generated with medium confidence*

*Figure 4: Log output from LogCat*

## Reflections

This app provided a practical way to learn how to develop for Android and how to use Android Studio. It also taught about how to use the UI design tool and XML files to make a reactive UI that can change based on orientation. We learned more about the Android app lifecycle and how to create persistent data through lifecycle changes.

If we were to improve on this app and add something, we would add the ability to change team names for easier identification. This would require changing the team’s name label to a text field so that users can edit it. This info would then need to be saved to the ViewModel so it is persistent across state changes.