Project Title: CalcMe

Team Name: Minh Durbin

Project Description:

CalcMe is a calculator application for Android powered devices that will calculate anything you want. There will be a main menu with three options: Simple, Scientific 1, Scientific 2, and Google. There will be navigation buttons on each option to reach other activities.

The first mode is Simple Mode in which the calculator will perform usual operations such as addition, subtraction, multiplication, and division. The user can enter integers and floating point numbers as inputs. The number of inputs in this activity is two. The maximum amount of digits in a number will be nine and the minimum is one. There will not be a percentage input where the user can enter a percentage as an integer and it will convert the integer to a floating point number. After the user receives an answer, the user can continue to use that answer as input to another operation or reset to receive new inputs. This mode contains a clear and a save button as well as navigation buttons to navigate to the desired activity. They are Scientific 1, Scientific 2, and Google.

The second mode is Scientific 1 Mode in which the calculator will perform scientific operations on one input. These operations include squared, cubed, natural logarithm, Euler's number raised to the input, one over the input, logarithm base 10,

sine, cosine, and tangent. This mode contains a clear and a save button as well as navigation buttons to navigate to the desired activity. They are Simple, Scientific 2, and Google.

The third mode is Scientific 2 Mode in which the calculator will perform scientific operations on two inputs. These operations include the first input to the power of the second input, and the first input to the power of (1/second input), or the Yth root of the X. This mode contains a clear and a save button as well as navigation buttons to navigate to the desired activity. They are Scientific 1, Simple, and Google.

The last mode is Google Mode in which the user can enter any inputs and the application will use Google to search for it. It is recommended to separate each operation by using parentheses to improve the accuracy of the results. This mode contains a clear and a save button as well as navigation buttons to navigate to the desired activity. They are Simple, Scientific 1, and Scientific 2.

List of team members: Minh Durbin

Requirements Specifications:

- 4 Activities: Simple, Scientific 1, Scientific 2, and Google
- Simple Mode operates on 2 inputs (can be unsigned and/or floating point numbers)
- Simple Mode can perform addition, subtraction, multiplication, and division.
- Simple Mode has the ability to save and clear inputs and output
- Simple Mode contains error checking

- Scientific 1 operates on input (can be unsigned and/or floating point numbers)
- Scientific 1 Mode can perform squared, cubed, natural logarithm, Euler's number raised to the input, one over the input, logarithm base 10, sine, cosine, and tangent.
- Scientific 1 Mode has the ability to save and clear input and output.
- Scientific 1 contains error checking.
- Scientific 2 Mode operates on 2 inputs (can be unsigned and/or floating point numbers)
- Scientific 2 Mode can perform first input to the power of the second input, and the first input to the power of (1/second input), or the Yth root of the X.
- Scientific 2 Mode has the ability to save and clear inputs and output.
- Scientific 2 Mode contains error checking.

Technical Description:

For this application there are four unique activities, Simple Scientific 1, Scientific 2, and Google. For Simple mode, this is the default activity and the layout for this activity is relative. This activity will perform simple operations on two inputs. Inputs can be any permutations of unsigned/signed, double/integer numbers. There is persistent memory using Shared Preferences by clicking the save button. This persistent memory will only save the current activity's data and not other activities. The clear button will clear all inputs and output for the current activity and uses requestFocus to navigate to the first input. The menu navigation Buttons are Scientific 1, Scientific 2, and Google. A textview with a hint set as "Answer: " will display the result of the operation. Operations

are addition, subtraction, multiplication, and division. The error checking functionality will display in the textview with the value “Infinity” or “NaN” when an illegal operation has occurred. For this specific activity, the layout background color is #FFEB3B and the button backgroundTint is #00BCD4. For Scientific 1 mode, this is a non default activity and the layout for this activity is relative. This activity will perform scientific operations on two inputs. Inputs can be any permutations of unsigned/signed, double/integer numbers. There is persistent memory using Shared Preferences by clicking the save button. This persistent memory will only save the current activity’s data and not other activities. The clear button will clear all inputs and output for the current activity and uses requestFocus to navigate to the first input. The menu navigation Buttons are Simple, Scientific 2, and Google. A textview with a hint set as “Answer: “ will display the result of the operation. Operations are X^2, X^3, ln, e^x, 1/x, log10, sin, cos, and tan. The error checking functionality will display in the textview with the value “Infinity” or “NaN” when an illegal operation has occurred. For this specific activity, the layout background color is #FFEB3B and the button backgroundTint is #F44336. For Scientific 2 mode, this is a non default activity and the layout for this activity is relative. This activity will perform scientific operations on two inputs. Inputs can be any permutations of unsigned/signed, double/integer numbers. There is persistent memory using Shared Preferences by clicking the save button. This persistent memory will only save the current activity’s data and not other activities. The clear button will clear all inputs and output for the current activity and uses requestFocus to navigate to the first input. The menu navigation Buttons are Scientific 1, Simple, and Google. A textview with a hint set

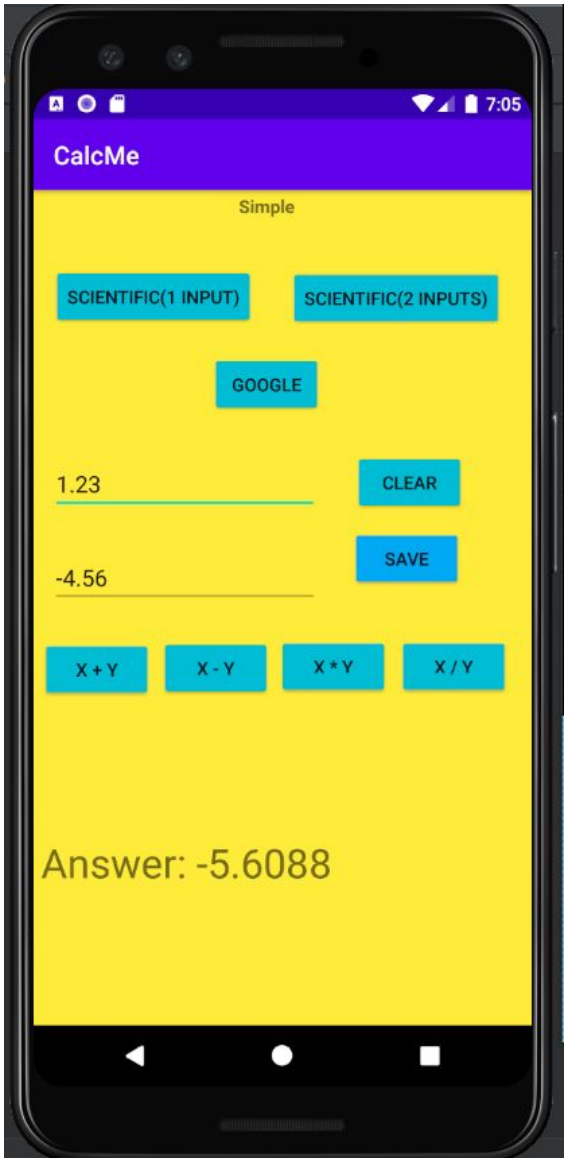
as “Answer: “ will display the result of the operation. Operations are X^Y and X^(1/Y) or the Yth root of X. The error checking functionality will display in the textview with the value “Infinity” or “NaN” when an illegal operation has occurred. For this specific activity, the layout background color is #00BCD4 and the button backgroundTint is #4CAF50. The last mode is Google in which the application will search Google for the given input. The given input can be any permutations of letters, numbers, decimals, symbols, etc… There is persistent memory using Shared Preferences by clicking the save button. This persistent memory will only save the current activity’s data and not other activities. The clear button will clear all inputs and output for the current activity and uses requestFocus to navigate to the first input. The menu navigation Buttons are Scientific 1, Scientific 2, and Simple. A textview with a hint set as “separate each operation by ()” for increased accuracy of the search results. The search button will open the default browser and use Google to search for the given input. For this specific activity, the layout background color is default white and the button backgroundTint having combinations of #4285F4, #DB4437, #F4B400, and #0F9D58.

Directions:

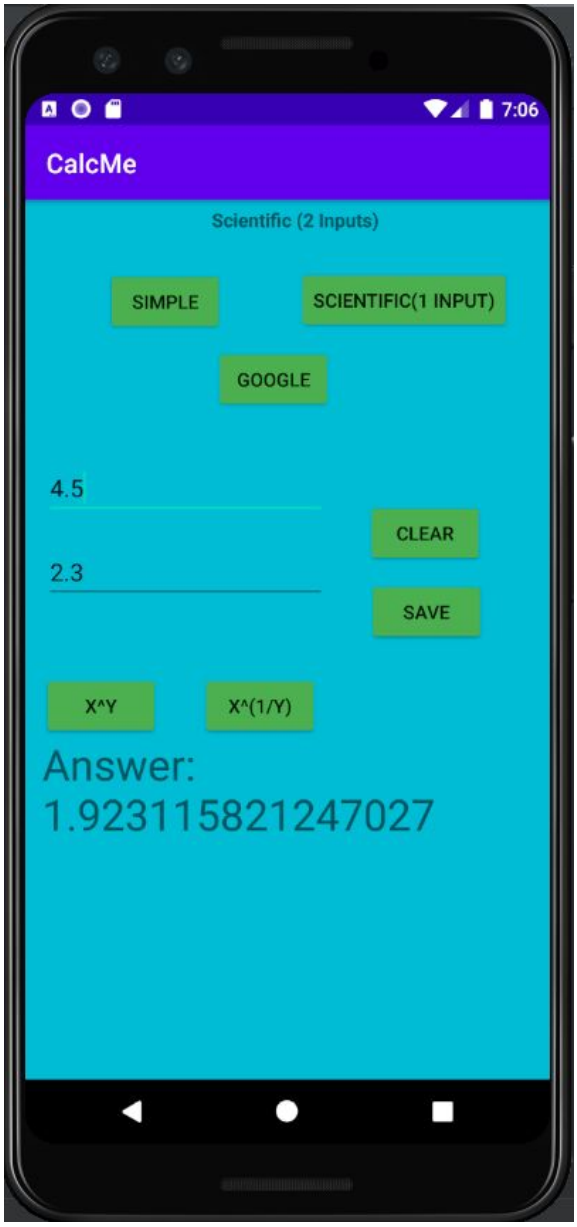
When first opening the app the default activity will be Simple. For each activity, there will be a textview that displays the name of the current activity, located on top of the screen. Near the top will be navigation buttons which will take the user to the button’s specified activity. After the user has entered the input(s), he/she can click on any operation button which will perform the button’s specified operation on the input(s). For Google mode, the user can click on the search button, which will open the default

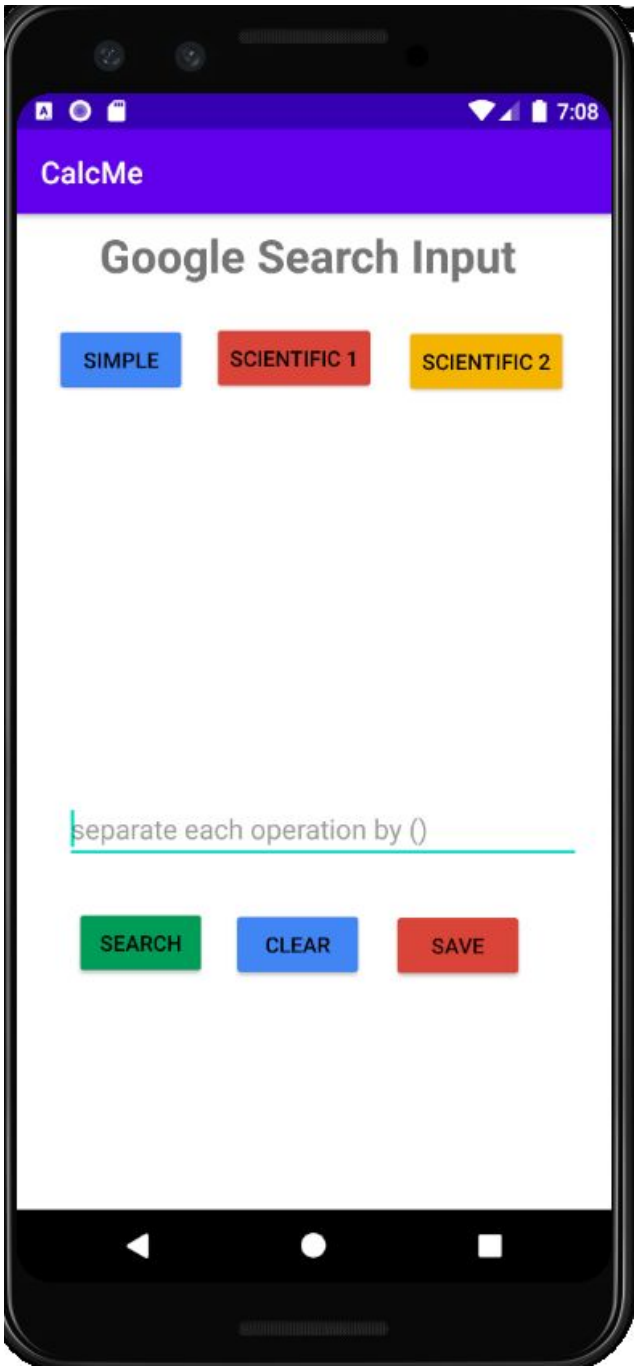
browser to Google search the given input. Each activity has a clear button that will clear all input(s) and output for the current activity and a save button that will save the current activity's data. Users can click the back button to navigate back into the application after using Google mode.

Screenshots:




7:07
CalcMe
Scientific (1 Input)
SIMPLE
SCIENTIFIC(2 INPUTS)
GOOGLE
-3.14
CLEAR
SAVE
E^X
1/X
LOG10
X^2
X^3
LN
SIN
COS
TAN
Answer: NaN


7:06
CalcMe
Scientific (2 Inputs)
SIMPLE
SCIENTIFIC(1 INPUT)
GOOGLE
4.5
2.3
CLEAR
SAVE
X^Y
X^(1/Y)
Answer:
1.923115821247027


7:08
CalcMe
Google Search Input
SIMPLE
SCIENTIFIC 1
SCIENTIFIC 2
separate each operation by ()
SEARCH
CLEAR
SAVE