

```
when singleCaseScreenButton .Click
do open another screen screenName singleCaseScreen
```

```
when multicaseScreenButton .Click
do open another screen screenName multiScreen
```

```
when homeButton .Click
do open another screen screenName Screen1

when showDataButton .Click
do call topChartData2D .Clear
call bottomChartData2D1 .Clear
call spreadsheet1 .ReadSheet
sheetName " Spirit Lake "
call spreadsheet2 .ReadSheet
sheetName " Otsego Lake "
```

```
when spreadsheet1 .GotSheetData
sheetData
do set topChartLabel .Text to " Spirit Lake, Orleans, Iowa "
call topChartData2D .ImportFromSpreadsheet
spreadsheet spreadsheet1
xColumn " Year "
yColumn " Ice "
useHeaders true
```

```
when spreadsheet2 .GotSheetData
sheetData
do set topChartLabel .Text to " Spirit Lake, Orleans, Iowa "
call bottomChartData2D1 .ImportFromSpreadsheet
spreadsheet spreadsheet2
xColumn " Year "
yColumn " Ice "
useHeaders true
```

Scratch Script (Top Block):

```

when [homeButton v].Click
do [open another screen screenName v Screen1]

```

Scratch Script (Second Block):

```

when [showDataButton v].Click
do [call [topChartData2D v].Clear
call [bottomChartData2D1 v].Clear
call [spreadsheet1 v].ReadSheet
sheetName v "Spirit Lake"]

```

Scratch Script (Third Block):

```

when [spreadsheet1 v].GotSheetData
sheetData
do [set [topChartLabel v].Text to "Spirit Lake, Orleans, Iowa"
call [topChartData2D v].ImportFromSpreadsheet
spreadsheet v spreadsheet1
xColumn v "Year"
yColumn v "Ice"
useHeaders v true
call [bottomChartData2D1 v].ImportFromSpreadsheet
spreadsheet v spreadsheet1
xColumn v "Year"
yColumn v "Temp"
useHeaders v true]

```

Show Warnings: 0

Show Errors: 0

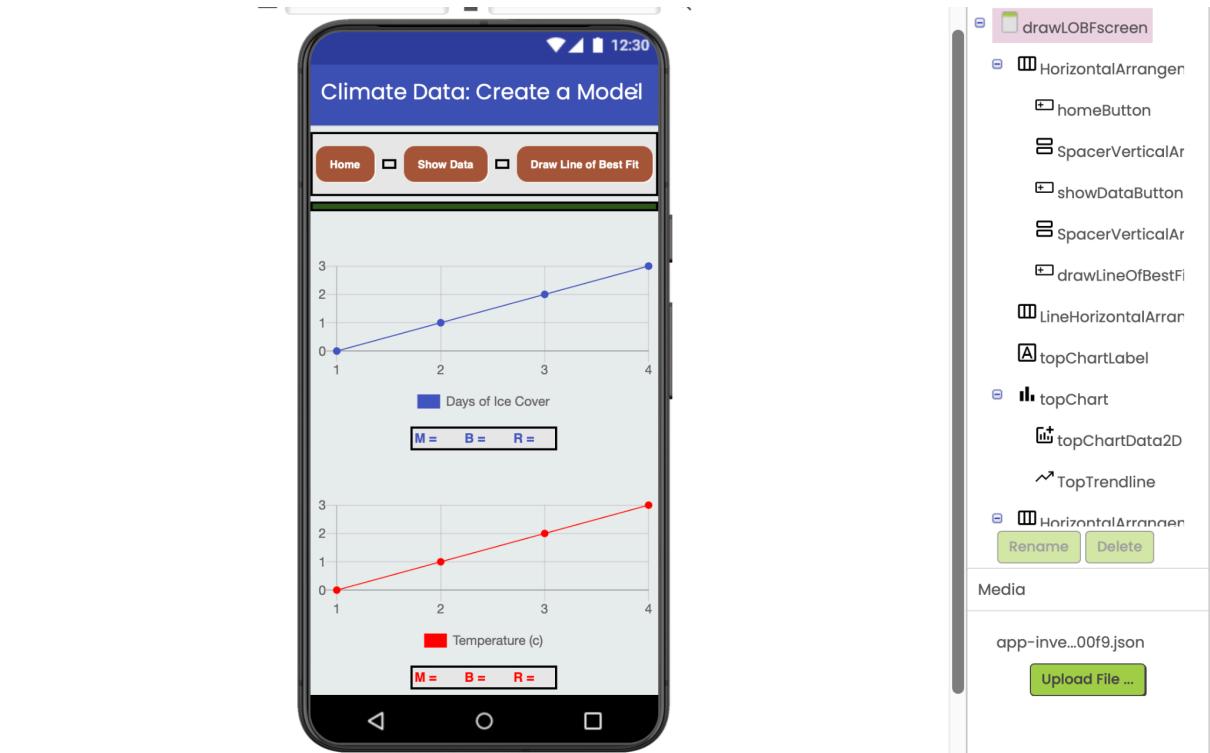
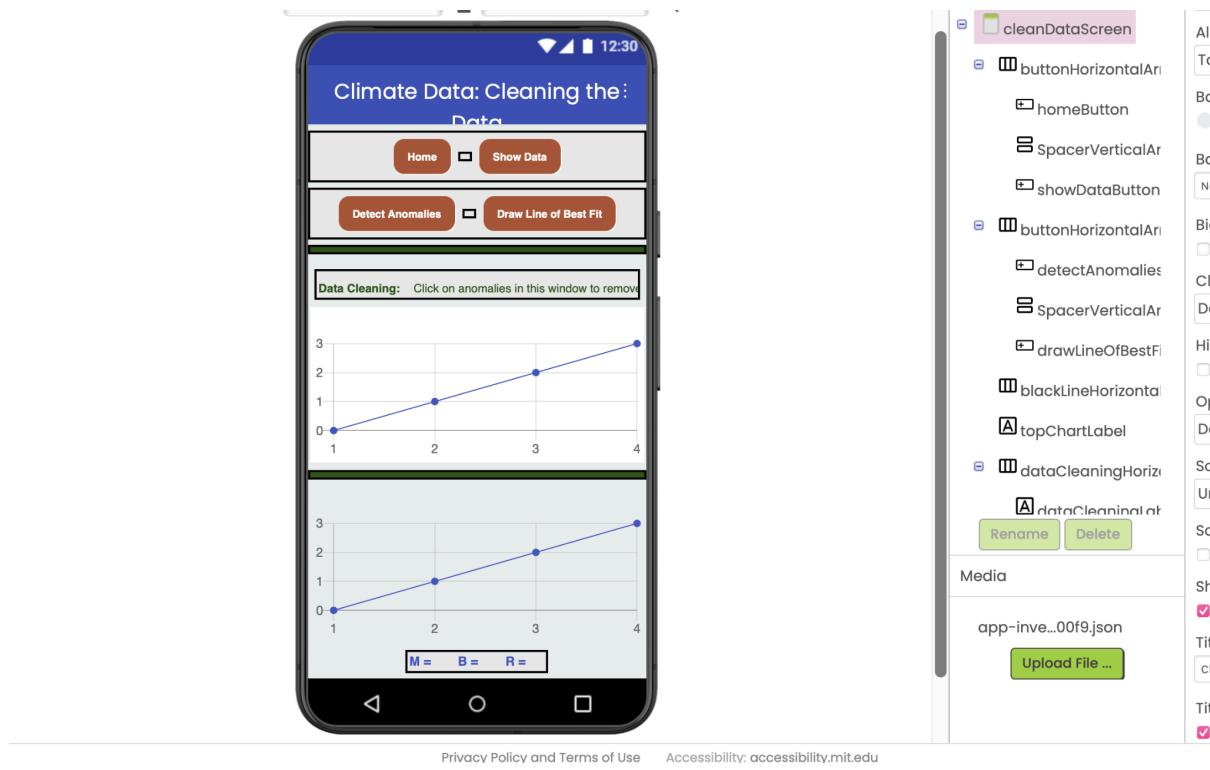
Mobile Preview: Climate Data Predictions

Project Explorer:

- Screen1
 - SpacerHorizontalAr
 - HorizontalArranger
 - menuLabel
 - SpacerHorizontalAr
 - HorizontalArranger
 - cleanDataButton
 - SpacerVerticalAr
 - lineOfBestFitButtc

Media:

- app-inve...00f9.json
- Upload File ...



```

when lineOfBestFitButton .Click
do open another screen screenName drawLOBFscreen

```

```

when cleanDataButton .Click
do open another screen screenName cleanDataScreen

```

```

when homeButton .Click
do open another screen screenName Screen1

when showDataButton .Click
do call cleanedChartData2D .Clear
call dataCleaningChartData2D .Clear
call spreadsheet1 .ReadSheet
sheetName ["Spirit Lake"]

when spreadsheet1 .GotSheetData
sheetData
do set topCharLabel .Text to ["Spirit Lake, Orleans, Iowa"]
call dataCleaningChartData2D .ImportFromSpreadsheet
spreadsheet [spreadsheet1]
xColumn ["Year"]
yColumn ["Ice"]
useHeaders [true]
call cleanedChartData2D .ImportFromSpreadsheet
spreadsheet [spreadsheet1]
xColumn ["Year"]
yColumn ["Ice"]
useHeaders [true]

when drawLineOfBestFitButton .Click
do set Trendline1 .ChartData to cleanedChartData2D

when detectAnomaliesButton .Click
do call dataCleaningChartData2D .HighlightDataPoints
dataPoints | call AnomalyDetection1 .DetectAnomaliesInChartData
chartData [dataCleaningChartData2D]
threshold [2]
color [red]

when dataCleaningChartData2D .EntryClick
x | y
do call dataCleaningChartData2D .RemoveEntry
x [get x]
y [get y]
call dataCleaningChartData2D .Clear
call dataCleaningChartData2D .ImportFromList
list | call dataCleaningChartData2D .GetAllEntries

when Trendline1 .Updated
results
do set SlopeValueLabel .Text to [Trendline1 .LinearCoefficient]
set Y_intValueLabel .Text to [Trendline1 .YIntercept]
set Cor_coeffValueLabel .Text to [Trendline1 .CorrelationCoefficient]

```

```

when homeButton .Click
do open another screen screenName Screen1

when showDataButton .Click
do call topChartData2D .Clear
call bottomChartData2D .Clear
call spreadsheet1 .ReadSheet
sheetName " Spirit Lake "

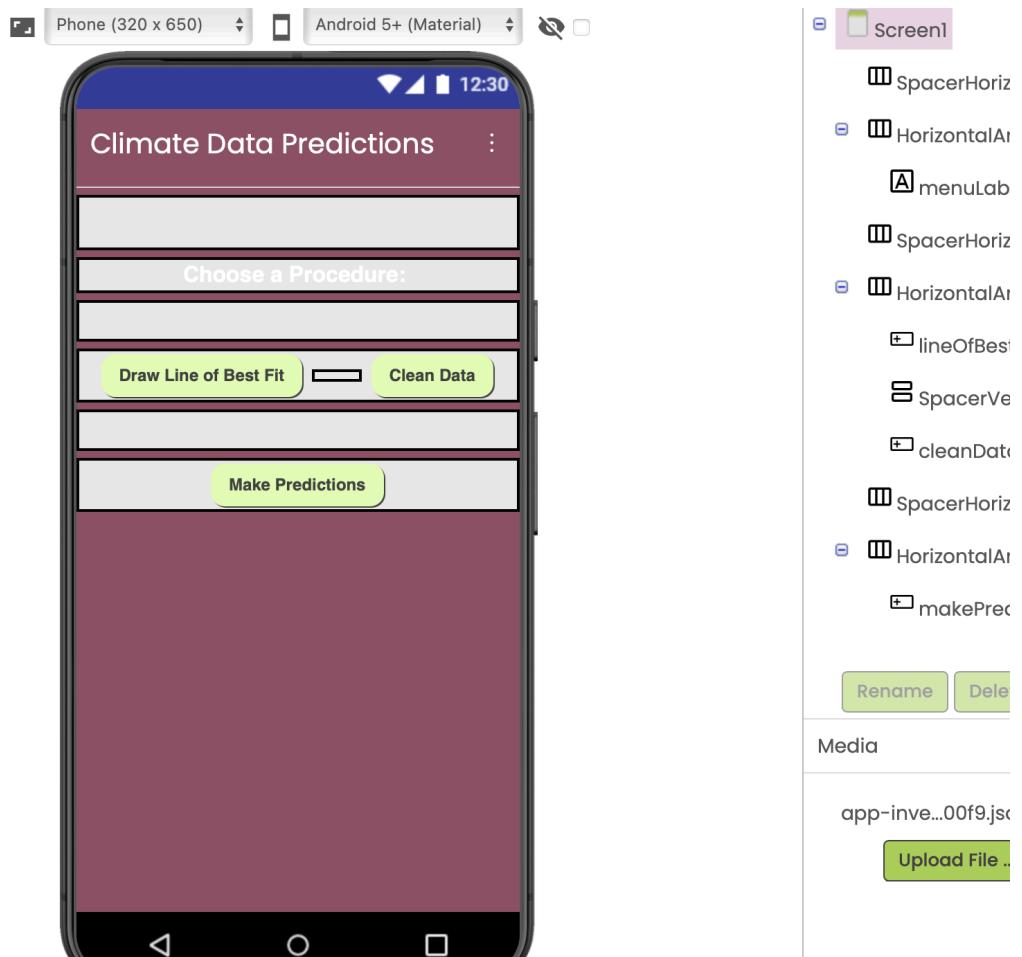
when spreadsheet1 .GotSheetData
sheetData
do set (topChartLabel .Text) to " Spirit Lake, Orleans, Iowa "
call topChartData2D .ImportFromSpreadsheet
spreadsheet spreadsheet1
xColumn "Year"
yColumn "Ice"
useHeaders true
call bottomChartData2D .ImportFromSpreadsheet
spreadsheet spreadsheet1
xColumn "Year"
yColumn "Temp"
useHeaders true

```

```

when drawLineOfBestFitButton .Click
do set TopTrendline .ChartData to topChartData2D
set BottomTrendline .ChartData to bottomChartData2D
set topSlopeLabel .Text to TopTrendline .LinearCoefficient
set topY_intValueLabel .Text to TopTrendline .YIntercept
set topCor_coefValueLabel .Text to TopTrendline .CorrelationCoefficient
set bottomSlopeLabel .Text to BottomTrendline .LinearCoefficient
set bottomY_intValueLabel .Text to BottomTrendline .YIntercept
set bottomCor_coefValueLabel .Text to BottomTrendline .CorrelationCoefficient

```



Phone (320 x 650) Android 5+ (Material) 12:30

Climate Data: Cleaning the Data

Home Show Data

Detect Anomalies Draw Line of Best Fit

Data Cleaning: Click on anomalies in this window to remove

M = B = R =

cleanData

- Horizon
- home
- Space
- show

Horizon

- detect
- Space
- draw

LineHor

- topChc

Horizon

- data
- Rename

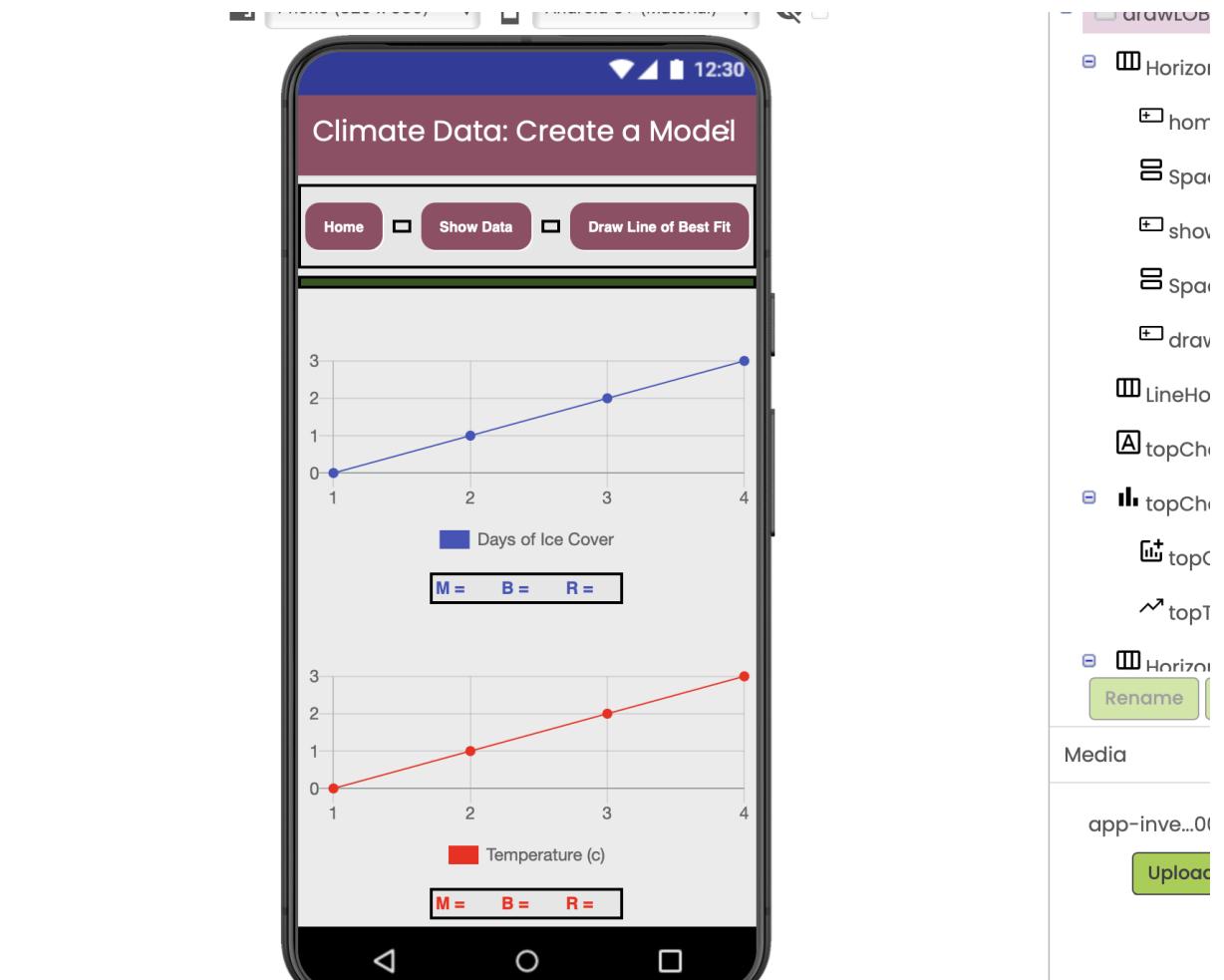
Media

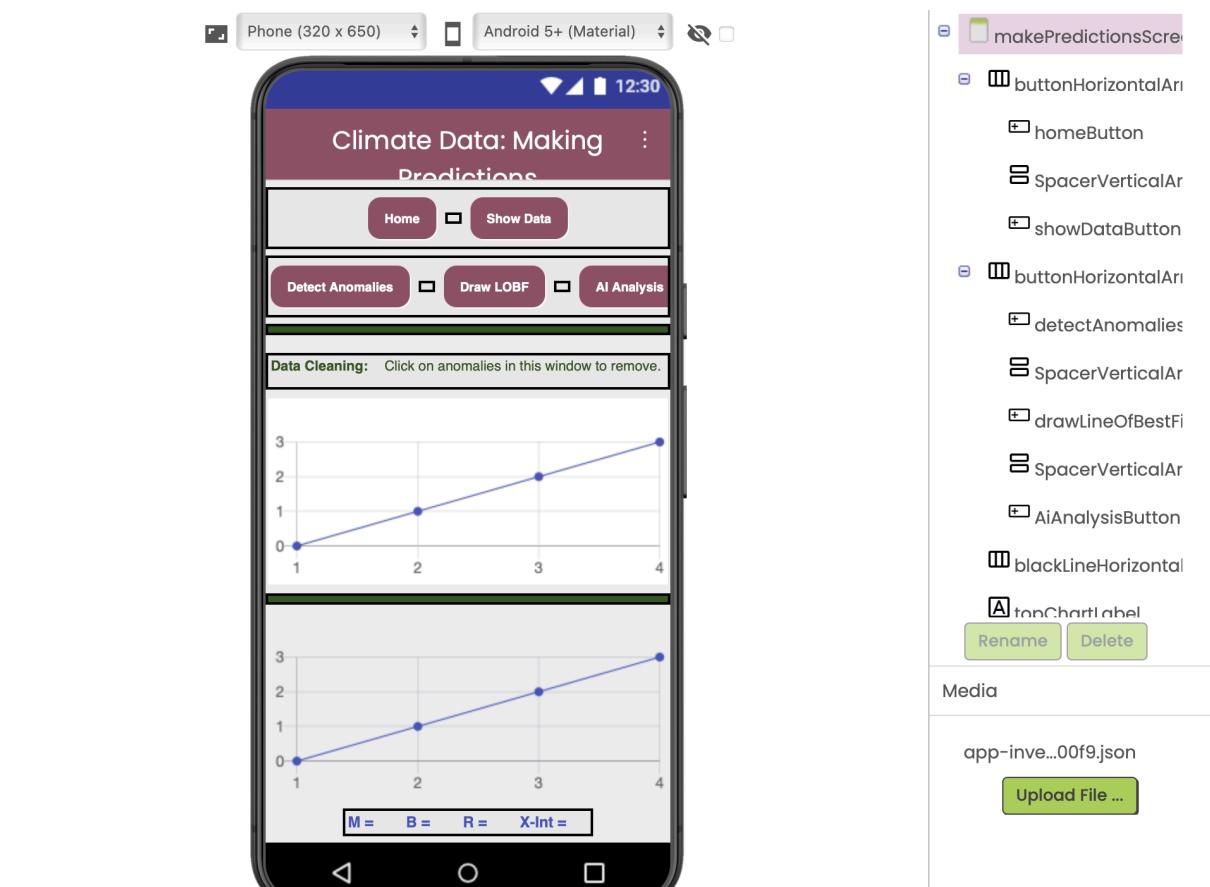
app-inve...00

Upload

The application interface for 'Climate Data: Cleaning the Data' is displayed on a mobile phone screen. The top navigation bar shows 'Phone (320 x 650)' and 'Android 5+ (Material)' with a timestamp of '12:30'. The main title is 'Climate Data: Cleaning the Data'. Below the title are two buttons: 'Home' and 'Show Data'. Underneath these are two more buttons: 'Detect Anomalies' and 'Draw Line of Best Fit'. A section titled 'Data Cleaning' contains the instruction 'Click on anomalies in this window to remove'. Below this is a scatter plot with four data points at coordinates (1,0), (2,1), (3,2), and (4,3). A blue line of best fit passes through all these points. At the bottom of the plot area are three input fields labeled 'M =', 'B =', and 'R ='. To the right of the phone screen is a sidebar with the following structure:

- cleanData
 - Horizon
 - home
 - Space
 - show
 - Horizon
 - detect
 - Space
 - draw
 - LineHor
 - topChc
 - Horizon
 - data
 - Rename





```

when lineOfBestFitButton .Click
do open another screen screenName drawLOBFscreen

```

```

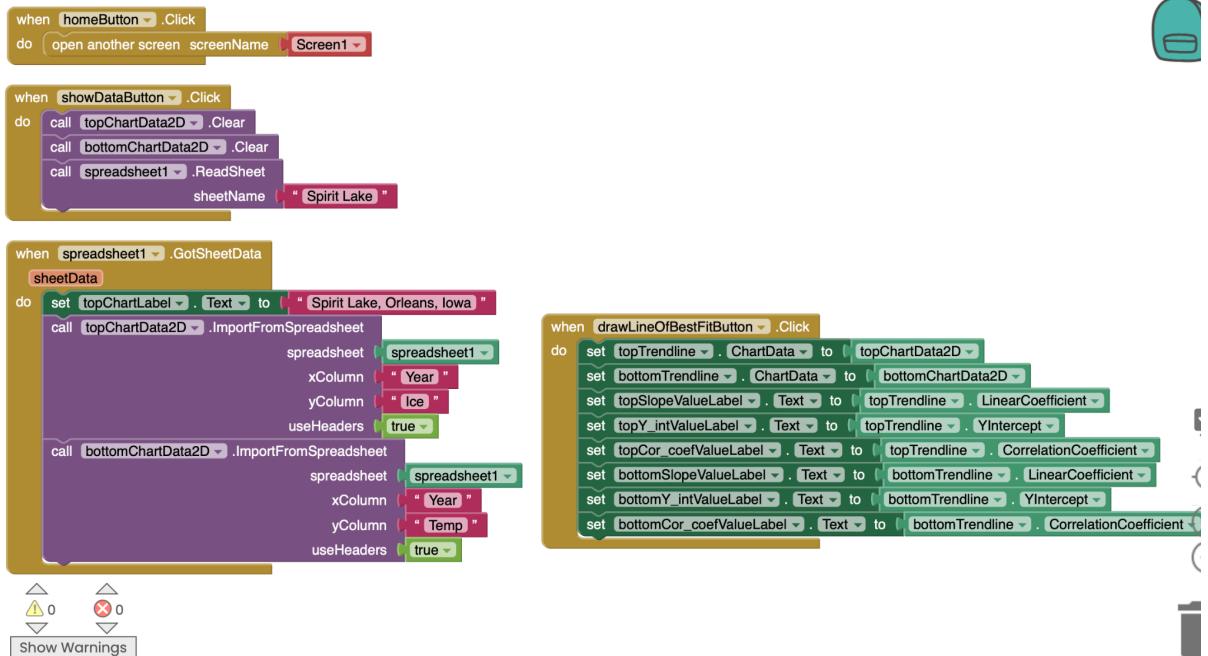
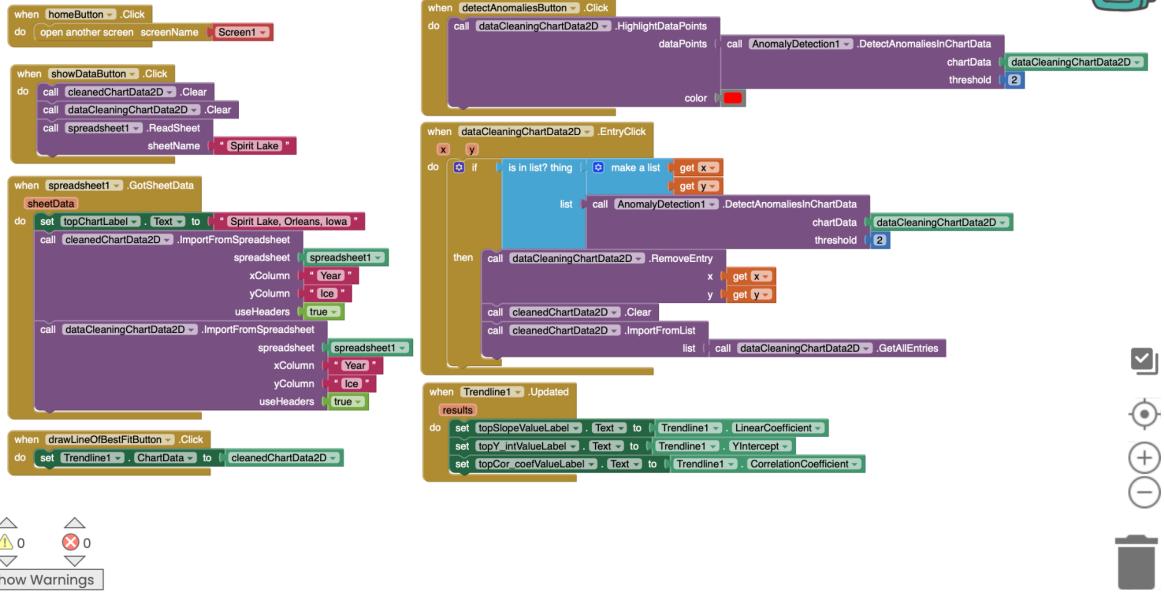
when cleanDataButton .Click
do open another screen screenName cleanDataScreen

```

```

when makePredictionsButton .Click
do open another screen screenName makePredictionsScreen

```



```

when homeButton .Click
do open another screen screenName Screen1

when showDataButton .Click
do
  call cleanedChartData2D .Clear
  call dataCleaningChartData2D .Clear
  call spreadsheet1 .ReadSheet
    sheetName " Spirit Lake "
  set dataCleaningChart .Visible to true
  set dataCleaningHorizontalArrangement .Visible to true
  set AiResponseHorizontalArrangement .Visible to false
  call ChatBot1 .Converse
    question join
      " Given the following data for the year "
      " Number of days a freshwater lake was frozen: "
      call cleanedChartData2D .GetAllEntries
      " The correlation coefficient for the line of best... "
      Trendline1 .CorrelationCoefficient
      " the slope of the line of best fit is "
      Trendline1 .LinearCoefficient
      " The Y-intercept for the line of best fit is "
      Trendline1 .YIntercept
      " First, predict the year there will likely be no... "
      " ice cover on the lake. Show your work and "
      " all steps. Next, what are the implications of "
      " this data for climate change? "
      " Limit your response to 120 words. "

```



```

when spreadsheet1 .GotSheetData
sheetData
do set topChartLabel . Text to " Spirit Lake, Orleans, Iowa "
call cleanedChartData2D .ImportFromSpreadsheet
spreadsheet [spreadsheet1]
xColumn [Year]
yColumn [Ice]
useHeaders [true]
call dataCleaningChartData2D .ImportFromSpreadsheet
spreadsheet [spreadsheet1]
xColumn [Year]
yColumn [Ice]
useHeaders [true]

when drawLineOfBestFitButton .Click
do set Trendline1 . ChartData to cleanedChartData2D

when ChatBot1 .GotResponse
responseText
do set AiResponseTextBox . Text to get responseText

when detectAnomaliesButton .Click
do call dataCleaningChartData2D .HighlightDataPoints
dataPoints | call AnomalyDetection1 .DetectAnomaliesInChartData
chartData [dataCleaningChartData2D]
threshold [2]
color [red]

```

⚠ 0 ✖ 0

Show Warnings

```

when dataCleaningChartData2D .EntryClick
x [x]
y [y]
do call dataCleaningChartData2D .RemoveEntry
x [get x]
y [get y]
call cleanedChartData2D .Clear
call cleanedChartData2D .ImportFromList
list | call dataCleaningChartData2D .GetAllEntries

when Trendline1 .Updated
results
do set SlopeValueLabel . Text to Trendline1 . LinearCoefficient
set Y_intValueLabel . Text to round [Trendline1 . YIntercept]
set Cor_coefValueLabel . Text to Trendline1 . CorrelationCoefficient
set X_intValueLabel . Text to round [Trendline1 . XIntercepts]
call cleanedDataChart .ExtendDomainToInclude
x [Trendline1 . XIntercepts]

```

```

when AiAnalysisButton .Click
do set dataCleaningChart . Visible to false
set dataCleaningHorizontalArrangement . Visible to false
set AiResponseHorizontalArrangement . Visible to true

```

⚠ 0 ✖ 0

Show Warnings