Activity 1.7 Technical Documentation

|  |  |  |
| --- | --- | --- |
| input1 | double | To hold the first value entered by the user |
| input2 | double | To hold the second value entered by the user |
| angle | double | Holds the angle entered by the user when using the trigonometric functionality |
| radians | double | Holds the radian value calculated by the trigonometric function |
| decimalPoint | boolean | Checks to see if the decimal point button has been pressed |
| plusButton | boolean | Checks to see if the button has been pressed |
| minusButton | boolean | Checks to see if the button has been pressed |
| divideButton | boolean | Checks to see if the button has been pressed |
| multiplyButton | boolean | Checks to see if the button has been pressed |
| mySinButton | boolean | Checks to see if the button has been pressed |
| myCosButton | boolean | Checks to see if the button has been pressed |
| myTanButton | boolean | Checks to see if the button has been pressed |
| mySqrtButton | boolean | Checks to see if the button has been pressed |
| myCbertButton | boolean | Checks to see if the button has been pressed |
| myInverseButton | boolean | Checks to see if the button has been pressed |

Algorithms

**Equals button press**

If plus button = true

Inpu2 + input1;

If minus button = true

Input2 – input1;

If divide button = true

Input2 / input1;

If multiply button = true

Input2 \* input1;

If mySinButton = true

If(angle > 90) error

Else angle = math;

Input2 = sin(angle);

If myCosButton = true

If(angle > 90) error

Else angle = math;

Input 2 = cosine(angle);

If myTanButton = true

If(angle > 90) error

Radians = math;

Input2 = tan(radians);

If mySqrtButton = true

Input 2 = math;

ifmyCbertButton = true

input2 = math;

if myInverseButton = true

input2 = math;

**AdditionButtonPress**

Input1 = user input

plusButton = true;

allRemainingBooleanValues = false;

**SubtractionButtonPress**

Input1 = user input

subtractionButton = true;

allRemainingBooleanValues = false;

**DivisionButtonPress**

Input1 = user input

divisionButton = true;

allRemainingBooleanValues = false;

**MultiplicationButtonPress**

Input1 = user input

multiplicationButton = true;

allRemainingBooleanValues = false;

**SinButtonPress**

mySinButton = true;

allRemainingBooleanValues = false;

**CosButtonPress**

myCosButton = true;

allRemainingBooleanValues = false;

**TanButtonPress**

myTanButton = true;

allRemainingBooleanValues = false;

**SquareRootButtonPress**

mySqrtButton = true;

allRemainingBooleanValues = false;

**CubeRootButtonPress**

myCbertButton = true;

allRemainingBooleanValues = false;

**InverseButtonPress**

myInverseButton = true;

allRemainingBooleanValues = false;

Testing procedure.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test | Input | Expected | Actual | Comment |
| Perform addition. A number + number. | Number + Number | Add the two numbers together and display the result | Adds the two numbers together and displays the result of the addition | Functioning. |
| Perform subtraction. A number - a number | Number -  Number | Subtracts the second number from the first number | Subtracts the second number from the first number | Functioning. |
| Perform division  A number divided by another number | Number / number | Divides the first number by the second number | Divides the first number by the second number | Functioning |
| Perform multiplication.  A number multiplied by another number | Number \* Number | Multiplies the first number by the second number | Multiplies the first number by the second number | Functioning |
| Perform square root on a number | Number squareroot equals | Gives the square root of the number entered | Gives the square root of the number entered | Functioning |
| Perform cube root on a number | Number  Cuberoot  equals | Gives the cuberoot of the number entered | Gives the cuberoot of the number entered | Functioning |
| Inverse number | Number +/- | Inverse the number entered | Inverses the number entered | Functioning |
| Sin | Number Sin | Gives the sin of the angle entered | Gives the sin of the angle entered | Functioning |
| Cos | Number cos | Gives the cos of the angle entered | Gives the cos of the angle entered | Functioning |
| Tan | Number tan | Gives the tan of the angle entered | Gives the tan of the angle entered | Functioning |

Recommendations for upgrades and future enhancements:

While functioning as a simple calculator we recommend further additions for error trapping as there currently is very little error trapping provided in this early version. Future enhancements can include a backspace button, deleting of sequenced numbers.