Portfolio Activity 1.6

In activity 2.2 and 2.3 you created a basic calculator and a 3rd party library. In this assessment activity you will combine these two activities and create a fully functional calculator which links to a maths library with a set of basic arithmetic and trigonometry functions.

Using the previous activities create a three (3) new math libraries with the following methods

Arithmetic

• Addition

• Subtraction

• Division

• Multiplication

Trigonometric

• Tan

• Sine

• Cosine

Algebraic

• Square Root

• Cube Root

• Inverse

Criteria

Each of these methods will require some research to ensure the correct values are displayed. For example the Tan(90) is undefined and your calculator should display an “invalid” message. Check the MSDN web site for information and sample code for each trigonometric function to ensure correct functionality.

Testing

Create a test table for each method with a range of valid and invalid data. Record your results in a table with screen shots in a formal report.

Portfolio Activity 1.7 (Documentation)

In this assessment activity you will revisit the GUI Calculator AT1.6 and update the code with comments, internal and external documentation.

Part One (Application Code/Comment)

Open the code windows for each of the classes in AT1.6 and refactor/rename the code so that it conforms the Capitalisation Naming Rules for Identifiers shown in the Documentation section on e-campus. In particular check the names of the identifiers so they conform to the Naming Structure (noun, verb, adjective, etc). Finally, adjust/rewrite your code so it conforms to the 15 best practices or writing readable code. Add suitable comments to each method or method block that details how the code behaves and what the method/function does. Finally, add the following details at the head of each code file; Author Name, Creation Date, Version Control.

Part Two (Technical Document)

Create a word document that has the following headings; for each heading add a detailed explanation, table, bullet points.

• Data Structures

o Name, type and purpose of each variable (in a table format)

• Algorithms

o Pseudo code for each method,

o Error handing techniques

• Recommended testing procedure (how should this software be tested before commercial release)

• Recommendations on upgrades and future enhancements