UNIVERSITY OF THE WEST INDIES
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Department of Computer Science, Mathematics & Physics

COMP2115 – Information Structures

Assignment and Lab Exercise #1

1. (a) Briefly describe the purpose and benefits of functions in developing software.

(b) Write a coded example of each of the 5 categories of functions in C++ with the appropriate formal function documentation

2. Create a header file called "**project.h**" which contains the following functions, with their proper formal documentation:

(a) A recursion function called "**calcPower**", which accepts two integers as parameters and returns the result of raising the first integer to the power of the second.

(b) A set of **overloaded functions** called "**getMin**" which takes three (3) parameters of the same data type and returns the smallest value which has been passed to it.

(c) A **template function** called "**printIt**" which prints the content of the single parameter which has been passed to it.

(d) A **default function** called "**twoValRatio**" which accepts three (3) integers and returns the result of multiplying the first integer to the second and dividing the product by the sum of the second and third integers.

(e) Two **overloaded inline functions** called "**calcArea"** which return the area of a circle when the value of the radius has been passed as a parameter, as either an integer or real value.

3. Write a program called "**project1.cpp**" which implements calls to the functions in "project.h". Run the programme in OpenSUSE.

NOTE: You may compile your code with the command:

g++ project1.cpp –o project1 –Wall

and run the compiled program with the command:

./project1