Instructions: For each part of this Lab, first create a Maple Program that carries out the requested procedure. Then use it to compute the requested operations. You may want to double check your answers using other Maple commands.

1. Create a Maple Procedure that computes the average of 7 numbers. Use your procedure to compute the average of the following data sets:

   (a) $\{94, 78, 85, 64, 87, 9, 187\}$

   (b) $\{4.235, 7.827, 6.921, 11.502, 16.175, 4.125, 1.492\}$

2. Create a Maple Procedure that takes as input two integers k and n and prints the integers from k to $k+n$ in order. Hint: use a while loop, an incrementing variable, and the command: $print(evalf(i))$ where i is a local variable.

   (a) Use your procedure to print the integers from 1 to 10

   (b) Use your procedure to print the integers from 27 to 84

3. Create a Maple Procedure that finds the Left Rectangle Riemann Sum for a function on a given interval and a specified number of equally spaced subdivisions. Use your procedure to compute a Left Rectangle Approximation for the following:

   (a) $f(x) = e^{-x^2}$ on $[-10, 10]$ with $n = 75$.

   (b) $f(x) = \sqrt{\tan x}$ on $[0, 1]$ with $n = 120$

4. Create a program to find Trapezoid Rule Approximations and use it on the same pair of functions.

5. Create a program to find Simpson's Rule Approximations and use it on the same pair of functions.

   Note: If you have not covered these method's in your Calculus course yet, the formulas for computing them can be found in your textbook.