1 Overview

This week we shall create additional program blocks. We shall use material from last week's practical and from this week's lectures.

2 Exercises

- Calculate the values of $\tan(x)$ where x is in radians in the range $[0, 60]$ every five degrees. Place the results in an array. Print the array. Make the array a global variable.

    1. Use the function (or subroutine) from the third lecture in Week 4, to convert degrees to radians.
    2. Construct *main*, in *main* have a loop where the loop counter does $0, 1, 2 \cdots 12$.
    3. Use the loop counter to generate the degree angles.
    4. Use the function to generate the radian values.
    5. Compute $\tan(x)$, store in the array.

- Create a function/subroutine that calculates the area under the curve of $\tan(x)$ from $0 \to 60$ degrees using the Trapezoidal Rule. (You did this last week).

- There should be one argument, the number of points, and the return value is the area.

- When compiling with C use #*include* $< math.h >$ and compile with "-lm". This will ensure the tan function is available.