Continuation of heat transfer code from last week…

**Exercise 7: Conversions**

You will need to convert the 2D array, Ti from units of Fahrenheit to Celsius before beginning the simulation. Then convert back from Celsius to Fahrenheit after the simulation. What will you need to do in order to perform both of these conversions?

**Exercise 8: Computing for many**i**and**j

Complete the line of code to compute Tjj for all positions, 1≤i≤N−1 , and all times, j>0.

**Exercise 9: End of the handle**

Complete the line of code to compute TjN at the end of the handle for all times, j>0. (You derived this equation in Exercise 1.)

**Exercise 10: Plotting**

Plot the temperature of the rod versus position, T(x), for a few different values of time, t. Make sure that your results seem reasonable. Discuss if/why the results seem reasonable.

**Note:** It is likely that your program won’t work right away! If your code generates errors, or if the results just don’t seem physically reasonable, you will need to debug your code.

**Exercise 11: Convergence**

Decrease the values of Δx and Δt, and re-run the simulation to check for convergence. If the temperature results change when you change the discretization, that means that Δx and/or Δt are too big, and you need to make them smaller. (But make sure that r<0.5.))