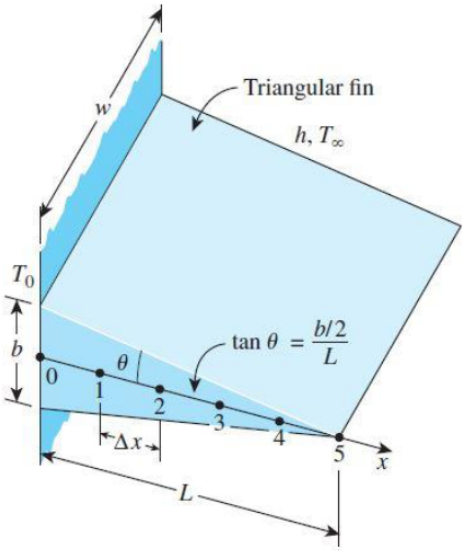
Assignment-2

Consider an aluminum alloy fin (k = 180 W/m·K) of triangular cross section with length L=20 cm, base thickness b = 4 cm, and very large width w. The base of the fin is maintained at a temperature of $T0$ = 100°C. The fin is losing heat to the surrounding medium at T_∞ =25°C with a heat transfer coefficient of h = 15 W/m2·K. Using the finite difference method with 20 equally spaced nodes along the fin in the x-direction,

Write a matlab program to find-

(a) The Temperatures at the nodes

(b) Plot the Temperature(T) vs distance from the base(x) plot.



- Also make a report of 1 page containing the plot and the solution of (a) part.
- All the files should be sent to devangk20@iitk.ac.in in a zip folder("Name_Rollno_A2")
- Deadline- Submission due by 23:59 pm, 20 March .