Problem:

1. Construct a T-x-y diagram for a binary system of ethanol and water at a total pressure of 1 atm. The binary system is to be considered as ideal.
   Antoine equation is given by:

$$\log_{10} P_i^{VP} = A - \frac{B}{C+T}$$

   where A, B and C are Antoine parameters, T is the temperature in °C and P_i^{VP} is the vapor pressure of pure component in mm of Hg.

   Note that 1 atm = 760 mm of Hg

Component	A	B	C
Water	8.07131	1730.63	233.426
Ethanol	8.2133	1652.05	231.48

   Boiling Point of Water and Ethanol are **100 °C and 78.23 °C** respectively. This is the range of temperature for which T in T-x-y curve will vary where as x,y will vary from 0 to 1.
   (T-x-y diagram is to be plotted for both water and ethanol)
2. Construct a x-y diagram for ethanol at a total pressure of 1 atm.
3. Construct a P-x-y Diagram for water at a temperature of 50 °C.

   Note that: MATLAB should be used to code the solution: