x0 - x initial
x1 - x final
y0 - y initial
y1 - y final
m - slope
y - final value/output
excessTemp(variable that will prompt the user to input the temperature)
points to use
   A: (1.3, 1000) B: (5, 7000) C: (30, 1.5x10**6) D: (120, 2.5x10**4) E: (1200, 1.5x10**6)

steps
   check first for excessTemp being within bounds
   check for valid inputs
   if it is, go through each temp range to decide which one excessTemp belongs to and set the variables for that range
   check for free convection
      5>excessTemp>=1.3
         set variables for this range x1, x0, y1, y0 = 5, 1.3, 7000, 1000
   check for nucleate
      30>excessTemp>=5
         set variables for this range x1, x0, y1, y0 = 30, 5, 1.5*10**6, 7000
   check for transition
      120>excessTemp>=30
         x1, x0, y1, y0 = 120, 30, 2.5*10**4, 1.5*10**6
   check for film
      1200>=excessTemp>=120
         set variables for this range x1, x0, y1, y0 = 1200, 120, 1.5*10**6, 2.5*10**4
   compute surface heat flux
test cases
   out of bounds
      excessTemp = 1.2
         expected "Surface heat flux is not available"
      excessTemp = 1201
         expected "Surface heat flux is not available"
   value error
      there shouldnt be a divided by zero error as there are no holes in the graph but should be handled anyways
   type error
      excessTemp = '1'
         expected "Surface heat flux is not available"
      excessTemp =   33
         expected "The surface heat flux is approximately {calculated number} W/m^2
   math
      excessTemp = 1*5

expected "The surface heat flux is approximately {calculated number} W/m^2
typical cases
excessTemp = 1.3
expected "The surface heat flux is approximately {calculated number} W/m^2
excessTemp = 5
expected "The surface heat flux is approximately {calculated number} W/m^2
excessTemp = 10(should be under approximation, y<100000)
expected "The surface heat flux is approximately {calculated number} W/m^2
excessTemp = 30
expected "The surface heat flux is approximately {calculated number} W/m^2
excessTemp = 120
expected "The surface heat flux is approximately {calculated number} W/m^2
excessTemp = 12000
expected "The surface heat flux is approximately {calculated number} W/m^2