0) Finish in class labs
   a) Ensure each integration method is functioning
   b) Construct a plot showing the accuracy of each method versus -
      - the number of sections/romberg steps in the integration
      - the compute time

1) Download GAIA.csv and Vega_SED.csv
   Calculate the area for both curves with each method.

   a) Each integration method (Trapezoidal, Simpson's, and Romberg) must return a valid numerical result. If any method fails, explain why and suggest a fix.

   b) Comment on the steps needed to compute the area of the data from Vega_SED.csv

2) writing question : Describe a numerical integration problem and explain which integration method you would use to solve this problem, keeping in mind the balance between accuracy and computation time. Justify your choice

3) Create the python code which computes the following mathematical expressions

a)
$$s = \sum_{i=1}^{n} f(x_i)$$

Where: $f(x) = x^2$

b)
$$\overline{x} = \frac{1}{n} \sum_{i=1}^{n} x_i$$

Where

$$x_i \in S,$$
$$S = \{x_1, x_2, \ldots, x_n\}$$

(i.e. x_i can be from whatever group of numbers you want)

c)
$$n! = n \times (n-1) \times (n-2) \times (n-3)\ldots 1$$

4) Book exercise 5.20