Task 09-01

- Create a Python program called **benfords_law.py** to demonstrate the Law of Anomalous Numbers by calculating the probability of each digit (1 to 9) appearing as the most significant digit in 100,000 very large random numbers
- Each of these special numbers should be a random integer, chosen from a uniform distribution between 1 and 1,000,000 (inclusive, inclusive) and then raised to the 100^{th} power
- Using pyplot, create a histogram showing the probability of each digit 1 to 9 appearing as the MSD across these 100,000 very large random integers
- Upload your solution to the BNL QIS101 SharePoint site

Task 09-02

- Create a Python program called **maxwell_boltzmann.py** to calculate and plot the probability density function (PDF) of the Maxwell-Boltzmann distribution
- Using pyplot, all on one graph, display three PDFs using these different parameters:
- Limit the plot domain to
- Upload your solution to the BNL QIS101 SharePoint site