Predict the time when an Earthquake might occur.

The exponential distribution is often concerned with the amount of time until some specific event occurs. For example, the amount of time until an earthquake occurs has an exponential distribution.

A group of people standing on a pile of rubble

Description automatically generated

* The code imports the necessary libraries and modules for performing statistical analysis on data following an exponential distribution.

A screen shot of a computer

Description automatically generated

* n\_ofEarthquake:represents the number of earthquakes.
* n\_ofyears:represents the number of years.
* mean:is calculated as the ratio of the number of years to the number earthquakes, representing the mean rate of earthquake per year , lambda=1/mean

A black background with white text

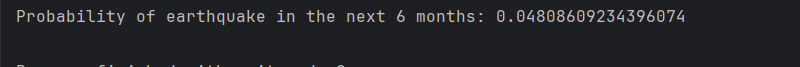
Description automatically generated

* time\_period:set to 6 months.
* x:represents rate for one event per mean years (lambda).
* Expon.pdf:calculates the probability density function(PDF) for the specified time period,representing the probability of an earthquake occurring in the next 6 months

A screen shot of a computer

Description automatically generated

* output



* Generate array of 100 values between 0 and 5 in x\_values
* Calculate the pdf and cdf values using the exponential distribution.
* Call the plot\_pdf and plot\_cdf functions to plot the graph of each function .

A computer screen shot of a code

Description automatically generated

A graph with a blue line

Description automatically generated A graph with a line

Description automatically generated