This is the first stage in a planned string of Python modules with will build to system to carry out a monte carlo type analysis of a critical path.

This module can be considered a proof of concept/training exercise.

**Section 1 Weather**

As Construction work usually takes place outside it is affected by the weather particularly wind and rain. The objective of this module is to produce a random weather pattern for each month of the year and based on a number of inputs which can be easily modified.

**Basic Assumptions**

1. Each month can have its own set of input criteria
2. Weather patterns – generally in the UK follow a three-day cycle  
   i.e. if it rains on day one of the cycle it is more likely to rain on day two and three than the base level
3. Simplifying assumption – only interested in wet days
4. Input data for each month will be the likelihood of weather affecting production on a given day.

Process:-

Select the month to be modelled

Set the probability of rain on a given day – initially set at 30%

Set the probability that if it rains on day one the probability of rain on day two is 60%

Set the probability that if it rains on day two the probability of rain on day three is 50%

Otherwise the probability of rain remains at 30%

Record the result