**Assignment\_21**

Q1. What is a probability distribution, exactly? If the values are meant to be random, how can you predict them at all?

**Ans: A probability distribution is a statistical function that describes all the possible variable can take within a given range. Basically it is the long term chance that a certain outcome will occur from some random process.**

Q2. Is there a distinction between true random numbers and pseudo-random numbers, if there is one? Why are the latter considered “good enough”?

**Ans: The difference between True random and pseudo-random is that true random is non-deterministic and upredictable whereas pseudo-random are deterministic.**

Q3. What are the two main factors that influence the behaviour of a "normal" probability distribution?

**Ans: A normal curve is distribution of data with most of the scores clustered around middle. In a normal curve the mean, mediam and mode are all equal and frequency of the other scores gradually lessen on both sides.**

Q4. Provide a real-life example of a normal distribution.

**Ans: Rolling a dice**

Q5. In the short term, how can you expect a probability distribution to behave? What do you think will happen as the number of trials grows?

**Ans: Actually the behavior of probability is linked to features of the phenomenon we would predict.**

Q6. What kind of object can be shuffled by using random.shuffle?

**Ans: lists**

Q7. Describe the math package's general categories of functions.

**Ans: acos(x) , asin(x)**

Q8. What is the relationship between exponentiation and logarithms?

**Ans: Logarithmic functions are the inverse of exponential functions.**

Q9. What are the three logarithmic functions that Python supports?

**Ans: log2(x) , log(x,Base)**