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

Answer: Probability distribution is a set of values that a random value can take within a specified range of values having an upper limit and a lower limit.

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

Answer: The main difference between true random numbers and pseudo random numbers is that true random numbers use an unpredictable physical means to generate numbers while pseudo random numbers use mathematical algorithms to generate numbers.

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

Answer: The 2 main factor that influence the behaviour of a distribution as normal is that it’s mean should be 0 and variance should be 1.

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

Answer: A real life example of a normal distribution is distribution of heights of people for both male and female across various geographical locations.

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?

Answer: In short term, if you have very less number of trials, you can expect the probability value to be completely 0 or completely 1.

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

Answer: List type objects could be shuffled using random.shuffle.

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

Answer: There are almost 50 functions in python’s module such as floor, ceil, abs, fmod, factorial and many more.

Q8. What is the relationship between exponentiation and logarithms?

Answer: Exponentiation and logarithm function are completely inverse of each other.

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

Answer: There are various log functions in python such as math.log(), math.log10(), math.log2() .