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 function that describes the likelihood of obtaining the possible values that a random variable can assume. In other words, the values of the variable vary based on the underlying probability distribution

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 number generators(TRNGs) and pseudo-random number generators(PRNGs) is that TRNGs use an unpredictable physical means to generate numbers (like atmospheric noise), and PRNGs use mathematical algorithms (completely computer-generated).

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

Ans=> mean and standard deviation

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

Ans=> Tossing A Coin

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=>A probability distribution is a function that describes the possible values of a random and if number of trials grows it will distribute more data.

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

Ans=>list string and tuple

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

Ans=> combinations and permutations,trigonometric functions,exponential function

Q8. What is the relationship between exponentiation and logarithms?

Ans=> Logarithms are the "opposite" of exponentials

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

Ans=> exp(x),log(),log10()