coursera

Item Navigation

Check your knowledge

We want your learning experience to be as efficient as possible. If you already know some probability theory you might be able to skip some of the lectures in this course. Have a look at the questions below. If you already know how to answer them feel free to skip the videos listed in parentheses.

1. When throwing a dice twice, what is the probability of getting exactly two 5's? (What is Probability?, What is Probability? - Dice example)

2. When throwing five dice and summing the result, what is the probability of obtaining a value greater than 5? (Complement of Probability)

3. What is the probability of getting an odd number or 1, when throwing a dice? (Sum of Probabilities)

4. What is the probability of getting an odd number or a prime number when throwing one dice? (Sum of Probabilities - Joint Events)

5. A factory produces two types of products: Type A and Type B. It is known that 70% of the total products are Type A, while the remaining 30% are Type B. The factory has a quality control system that can correctly identify Type A products with a probability of 80% and Type B products with a probability of 90%.

If a randomly selected product is tested and found to be of high quality, what is the probability that it is Type A? (Bayes Theorem - Intuition, Bayes Theorem - Mathematical Formula)

6. When flipping a coin 10 times, you want to investigate how many heads will show up in average. How can you define a random variable to work with this problem? (Random Variables)

7. You throw 10 dice and observe how many even numbers show up. Which random variable and parameters can describe this situation? (Probability Distributions (Discrete), Binomial Distribution)

8. For the given distributions, write down their Probability Density Functions:

- Uniform[0,5]
- Normal(5,1)

(Probability Distributions (Continuous), Probability Density Function, Uniform Distribution, Normal Distribution)

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