datascience_assignment_17.1

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0.1 A test is conducted which is consisting of 20 MCQs (multiple choices questions) with every MCQ having its four options out of which only one is correct. Determine the probability that a person undertaking that test has answered exactly 5 questions wrong.

0.2 Solution Steps:

- Import scipy
- Define Number of questions, n
- Define probability (p) of wrong answer for a question
- Define Binomial Distribution by calling binom method of scipy
- Define Number of failed answers
- Get probability by calling pmf method on hh and by passing Number of failed answers as input
- Print probability

```
In [3]: import scipy.stats as ss
        # Number of questions
        n = 20

        # probability of wrong answer for a question
        p = 3./4

        # Define Binomial Distribution by calling binom method of scipy
        hh = ss.binom(n, p)

        # Number of failed answers
        no_failed_answers = 5

        # Get probability by calling pmf method on hh and by passing
        # Number of failed answers as input
        probability = hh.pmf(no_failed_answers)

        # Print the probability
        print("probability of exactly 5 wrong answers = " + str(probability))

probability of exactly 5 wrong answers = 3.4264958230778435e-06
```