# SMAI-M20-QUIZ 1

IIIT Hyderabad

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# Review Question - 1 (one, none or more correct)

The values in these questions have to be generated by code Different values of m: integer(2,6), and p: float(.1,.9) produce different questionsIn a MCQ a student randomly guesses from the options if she does not know. Given that there were $m$ choices in a question and that $p$ is the chance she knows the answer, what is the probability that she knew the answer if she answered correctly?

1. 1.1 $\frac{mp}{1+mp}$
   1.2 $\frac{1}{1+(m-1)p}$
   1.3 $\frac{1}{1+mp}$
   1.4 $\frac{mp}{1+(m-1)p}$

   Ans: D

# Quiz Question - 2 (one, none or more correct)

Different values of w1, b1, w2, b2 produce different answers. (All integers in the range (1,10)

Bag I contain $w_1$ white and $b_1$ black balls. Bag II contains $w_2$ white and $b_2$ black balls. A ball is drawn at random from one of the bags, and it is found to be white. What is the probability that it was drawn from Bag I.

1. $\frac{w_1}{w_1+b_1}$
2. $\frac{w_1(w_1+b_1)}{w_1(w_1+b_1)+w_2(w_2+b_2)}$
3. $\frac{w_1(b_1+b_2)}{w_1(b_1+b_2)+w_2(b_1+b_2)}$
4. $\frac{w_1(w_2+b_2)}{w_1(w_2+b_2)+w_2(w_1+bd_1)}$

Ans: D

# Quiz Question - 3 (one, none or more correct)

A man is known to speak truth $K$ out of 10 times. He throws a die and reports that number obtained is a four. Find the probability that the number obtained is actually a four.

1. $\frac{1}{6}$
2. $\frac{K}{60-5K}$
3. $\frac{K}{40-3K}$
4. $\frac{K}{50-4K}$

Ans: D

# Quiz Question - 4 (one, none or more correct)

Different values of A,B,C,D can be used to produce questions

Given the following confusion matrix what is the precision?

| | Predicted +ve | Predicted -ve |
|---|---|---|
| Actual +ve | A | B |
| Actual -ve | C | D |

1. $\frac{A}{A+B}$
2. $\frac{A}{A+C}$
3. $\frac{A+D}{A+B+C+D}$
4. $\frac{D}{D+C}$

Ans: B

# Quiz Question - 5 (one, none or more correct)

Consider that numbers from 1 to $N^2$ are arranged in a $N$ by $N$ dimensional square matrix $M$ in a way such that first $N$ numbers are in row 1 (in order), next $N$ numbers in frow 2 and so on. The rank of $M$ is

1. 1
2. 2
3. $N$
4. None of these

ANS : B