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21 Oct 2022 - Probability for Machine Learning - Part II

[Quiz 02](#)

Started on	Friday, 28 October 2022, 4:38 PM
State	Finished
Completed on	Friday, 28 October 2022, 4:39 PM
Time taken	1 min 49 secs
Grade	5.00 out of 5.00 (100%)

Question 1

Correct

Mark 0.50 out of 0.50

Normal distribution is parameterized by just two parameters,  $\mu$  and  $\sigma^2$ .

Select one:

☒ True ✓☐ False

The correct answer is 'True'.

Question 2

Correct

Mark 1.00 out of 1.00

Three factories (A,B,C) produce light bulbs. 10%, 20%, and 70% of the bulbs are produced at factory A, B and C respectively. 5% of the bulbs produced in factory A, 2% of the bulbs produced in factory B and 3% of the bulbs produced in factory C are defective. A bulb is selected at random.

What is the probability of selecting a defective bulb?

Answer:  ✓

The correct answer is: 0.03

## Question 3

Correct

Mark 1.00 out of 1.00

What is the probability of the selected bulb being from factory C if it found to be defective?

Answer:  ✓

The correct answer is: 0.7

## Question 4

Correct

Mark 1.00 out of 1.00

What is the probability of the selected bulb being from factories A or B if it is found to be defective?

Answer:  ✓

The correct answer is: 0.3

## Question 5

Correct

Mark 0.50 out of 0.50

In the normal distribution, what is the percentage of probability captured with the  $(\mu - 3\sigma < x < \mu + 3\sigma)$  as a percentage?

Answer:  ✓

The correct answer is: 99.7

## Question 6

Correct

Mark 0.50 out of 0.50

In the distribution, when  $\alpha = 2$  and  $\beta = 2$ , the function is symmetric.

Select one:

- ☒ True ✓
- ☐ False

The correct answer is 'True'.

## Question 7

Correct

Mark 0.50 out of 0.50

Match

Knowing one variable does not help to predict the other.	No correlation. ▾	✓
Covariance	Depends on the scale of individual variables. ▾	✓
When one variable goes up, the other one goes down.	Negative correlation. ▾	✓
A variable can depend on the other but have	No correlation. ▾	✓
When one variable goes down, the other one does too.	Positive correlation. ▾	✓

Your answer is correct.

The correct answer is:

Knowing one variable does not help to predict the other. → No correlation.,

Covariance → Depends on the scale of individual variables.,

When one variable goes up, the other one goes down. → Negative correlation.,

A variable can depend on the other but have → No correlation.,

When one variable goes down, the other one does too. → Positive correlation.

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[Quiz 03 ▶](#)

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