Score: **100%**

No. of questions: **9**

Correct answer: **9**

Incorrect answer: **0**

Show incorrect attempt only

Question 1

1 Mark

Which of the following is true about 'residuals'?

A Lower is better

B Higher is better

C Depends on the situation

Correct Answer: A. Lower is better

Residuals refer to the error values of the model. Therefore, lower residuals are desired.

Question 2

2 Marks

Which of the following methods is used to find the best fit line for data in linear regression?

A Least Square Error

B Maximum Likelihood

C Logarithmic Loss

D Both A and B

Correct Answer: A. Least Square Error

In linear regression, we try to minimize the least square errors of the model to identify the line of best fit.

Question 3

3 marks

Overfitting is more likely when you have a huge amount of data to train.

A True

B False

Correct Answer: B. False

With a small training dataset, it's easier to fit the training data exactly i.e. overfitting.

Question 4

1 Mark

Linear regression is a supervised machine learning algorithm.

A True

B False

Correct Answer: A. True

Yes, linear regression is a supervised learning algorithm because it uses true labels for training. Supervised learning algorithm should have an input variable (x) and an output variable (Y) for each example.

Question 5

2 Marks

Which of the following statements is true about outliers in linear regression?

A Linear regression is sensitive to outliers

B Linear regression is not sensitive to outliers

C None of the above

Correct Answer: A. Linear regression is sensitive to outliers

The slope of the regression line will change due to outliers in most of the cases. So, linear regression is sensitive to outliers.

Question 6

3 marks

Which of the following evaluation metrics can be used to evaluate a model while modeling a continuous output variable?

A AUC-ROC

B Accuracy

C Logloss

D Mean-Squared-Error

Correct Answer: D. Mean-Squared-Error

Since linear regression gives output as continuous values, so in such cases, we use mean squared error metric to evaluate the model performance. Remaining options are used in case of a classification problem.

Question 7

1 Mark

What is the slope of the line y = 2x+5?

A 2

B 5

C 2/5

D 5/2

Correct Answer: A. 2

Slope intercept form of the equation of a line is given by y=mx+c where 'm' refers to the slope. In our case, the slope of a line is 2.

Question 8

2 Marks

Consider the following regression line:

Y = βx + b
What do the parameters β and b signify?

A Intercept and slope respectively

B Slope and intercept respectively

C Cost function

D None of the above

Correct Answer: B. Slope and intercept respectively

Slope intercept form of the equation of a line is given by y=mx+c;
Where 'm' refers to the slope and 'c' refers to intercept. In our case, 'β' refers to the slope and 'b' refers to intercept.

Question 9

3 marks

Which of the following equations are examples of linear relationships?

A Y = mX + C

B Y = X

C Y = X^2

D Y = X^3

E Both A and B

Correct Answer: E. Both A and B

Any equation whose degree is less than or equal to 1 is called a linear equation. In our case, y=mx+c and y=x have degree 1. Hence, these are examples of linear relationships.