socrative

DM-Spring-2020-Q5-Grade 16 Questions

1. In the multiple linear regression, we assume that...

10/13 **A** The number of observations is much larger than the number of variables (n>>p)

3/13 **B** The number of observations is slightly larger than the number of variables (n>p)

0/13 **C** The number of observations equals than the number of variables (n=p)

0/13 **D** The number of observations is lees than the number of variables (n<p)

0/13 **E** It is not important

0/13 **F** I do not know

2. The way of solving the problem of a large number of variables is...

10/13 **A** Subset Selection & Shrinkage (Regularization)

1/13 **B** Shrinkage (Regularization) & Maximum Likelihood estimation

2/13 **C** Dimension Reduction & OLS estimation

0/13 **D** I do not know

0/13 **E** The absence of the right answer

3. The bias of an estimator (e.g. z^) equals

10/13 **A** E(z^) - z

1/13 **B** E(z^2) - [E(z)]^2

2/13 **C** [E(z^2) - E(z)]^2

0/13 **D** E(z^2)

0/13 **E** I do not know

4. The main idea of regularization is

9/13 **A** To introduce a small amount of bias in order to have less variance.

1/13 **B** To introduce a small amount of variance in order to have less bias.

3/13 **C** To introduce a small amount of variance and bias in order to have less bias.

0/13 **D** I do not know

5. With which function we can show regularization in R

11/13 **A** glmnet()

0/13 **B** regular()

0/13 **C** lm()

2/13 **D** glm()

0/13 **E** I do not know

6. How the tune of any parametr can be made

12/13 **A** using Cross validation

0/13 **B** It is impossible

0/13 **C** I do not now

1/13 **D** using larger sample

0/13 **E** only having population

7. Elastic Net is

12/13 **A** the combination of L1 and L2 regularization

1/13 **B** the combination of L2 and L3 regularization

0/13 **C** is independent from other types of refularization

0/13 **D** I do not know

0/13 **E** not a type of regularization

8. Regularization is used only for

1/13 **A** Poisson Regression

6/13 **B** Linear Regression

0/13 **C** Logistic Regression

6/13 **D** any regression

0/13 **E** I do not know

9. Regularization can solve the problem of

0/13 **A** heteroscedasticity

13/13 **B** multicollinearity

0/13 **C** autocorrelation

0/13 **D** I do not know

10. As a result of regularization, we will have

10/13 **A** smaller slope than in case of OLS

1/13 **B** larger slope than in case of OLS

2/13 **C** the slope remains the same

0/13 **D** I do not know

11. The ridge coefficient estimates shrink towards zero

10/13 **A** when lambda increases

2/13 **B** when lambda decreases

1/13 **C** when lambda = 0

0/13 **D** I do not know

12. Which one can shrink the slope all the way to 0?

10/13 **A** Lasso

3/13 **B** Ridge

0/13 **C** Regression

0/13 **D** I do not know

13. When lambda = 0, we have

1/13 **A** Ridge

2/13 **B** Lasso

1/13 **C** EL

9/13 **D** Regression

0/13 **E** I do not know

14. When alpha = 0, we have

8/13 **A** Ridge

2/13 **B** Lasso

2/13 **C** EL

1/13 **D** Regression

0/13 **E** I do not know

15. Which function can help to perform cross-validation for regularization in R?

9/13 **A** cv.glmnet()

1/13 **B** cros_val()

3/13 **C** glmnet(method = "cv)

0/13 **D** I do not know

16. Why we use set.seed() in R?

10/13 **A** To have universal result

2/13 **B** To perform better result

1/13 **C** To have random models

0/13 **D** I do not know