Congratulations! You passed!

TO PASS 80% or higher

Keep Learning

GRADE
90%

PRACTICE QUIZ • 30 MIN

Week 1 Quiz

Week 1 Quiz

TOTAL POINTS 10

Submit your assignment

Receive grade

TO PASS 80% or higher

Grade
90%

View Feedback

We keep your highest score

1. Which of the following is **not** an example of a clinical application of a prognostic model? **1 / 1 point** Try again

- Informing patients about their risk of developing illness
- Determining who should receive end of life care
- Detecting atrial fibrillation automatically using a EKG
- Determining who should receive drugs for reducing heart attack risk

Correct

Correct answer. Prognosis involves predicting the risk of future events. Detecting atrial fibrillation involves determining something that has already happened, so it is NOT an example applying prognosis.

2. Recall the MELD score from the lesson. What is the output for a person with **1 / 1 point**

Creatinine = 0.8 mg/dL,

Bilirubin total = 1.5 mg/dL,

INR = 1.3

Remember that the final score is multiplied by 10.

Please use natural logarithm instead of base 10 log.

You can also watch the video "Liver Disease Mortality" to review the calculation of the MELD score.

Variable	Coefficient
Ln Creatinine (mg/dL)	0.957
Ln Bilirubin total (mg/dL)	0.378
Ln INR	1.120
Intercept	0.643

- None of the above
- 7.44
- 0.876
- 8.76

Correct

Evaluating the formula, we get ln(0.8)*0.957 + ln(1.5)*0.378 + ln(1.3)*1.12 + 0.643 = 0.876. Multiplying this by 10 we get 8.76.

3. You've fit a linear model with no interaction terms, and which include Age (in years) as an input feature of the model. Also, you don't multiply the sum product by any scaling number (unlike the MELD score, for instance). **1 / 1 point**

The risk score for a patient measured today is 0.56.

The model's coefficient for age is 0.24.

What will this patient's risk score be one year later, if all other features remain the same?

- 0.24
- 0.80
- Not enough information
- 0.56

Correct

Because the model is linear and since there are no interaction terms, and since it's given that the model does not multiply the sum product by a scaling factor, you have enough information to calculate the patient's risk score.

The only change in the features will be the age, which will increase by one year.

This will add 1×0.24 to the original risk score.

The new risk score will be $0.56 + 0.24 = 0.80$.

4. A linear risk model for the risk of heart attack has three inputs: Age, Systolic Blood Pressure (BP), and the interaction term between Age and Systolic Blood Pressure. The coefficients for Age, BP, and the interaction term are 0.1, 0.3, and 0.5. **1 / 1 point**

Can you determine how an increase in blood pressure is affected by an increase in age?