Warmup/Attendance: [Week 11: Wednesday 11/4/2026]

Full Name: SID:

Work with the people around you to try to solve these problems, which we'll discuss together once lecture begins. These are not graded for correctness, but you will turn this sheet in for attendance at the end of class.

For each of the following scenarios identify:

- the target variable Y and its type
- (time permitting, the features X_j, their types, and how many they are (q))
- whether it's a regression or a classification task

1. Secenario A

- Amazon sets the price for a specific book, dependent on the book's weight and whether it is hardback or paperback.

2. Secenario B

- Abebooks guesses the time it'll take to sell a specific book, based on the price it can freely set, the book's weight and whether it is hardback or paperback.

3. Secenario C

- Ebay guesses the final sale price for a specific book, based on the initial bid price the seller has set, the book's weight and whether it is hardback or paperback.

4. Secenario D

- A Waymo engineer is working on a model to determine whether the self-driving car is seeing a real car or a reflection of a car.

5. Secenario E

- A marine biologist is trying to guess the nose-to-tail length of the typical manatee in the waters off the coast of Florida, broken down by sex and age groups.

6. Secenario F

- The Weather Channel predicts tomorrow's temperature based on historical data, tomorrow's expected weather conditions and yesterday's temperature.

7. Secenario G

- The UCB Admissions office has to predict whether a student will accept its admission offer or not based on the student's high school and their intended major.

8. Secenario H

- A philologist examines a 2nd century BCE papyrus from Egypt, full of holes, and written in Coptic. They make a guess about the missing letters in the holes, based on the surrounding words, the dating, the geographic origin of the papyrus.

9. Which is better?

- Large MSE or small MSE?