Name: *Jacob Hauptman*

Stat 400. Fall 2024. Exam 2 Reflection. Due 12/08/24.

Instructions (read carefully): This is an **optional** extra credit assignment worth up to 1/4 of the points you lost on Exam 1, 2, or 3.

- Read through the reason codes below. These are explanations for why you either missed or received points on the exam.

- On the following pages, for each problem on the exam write your score and the number(s) of the reason codes that most closely correspond to why you feel you missed or received points on the problem **even if your answer was correct**. You may use multiple codes per problem.

- For the problems (or parts of problems) where you did lose points, redo the problem (showing your work) in the space provided.

- Answer the reflection questions on the last page.

- Scan and email your completed exam reflection to me (zomback@umd.edu).

Reason Codes:

If you missed points,

a) If I had more time, I wouldn't have missed these points. In other words I either didn't have time to thoughtfully answer this question at all, or I made careless errors such as misreading the question or arithmetic or algebra errors.

b) If I had all of my notes, I could have done this problem.

c) Even with all of my notes I wouldn't know how to do this problem.

d) I thought I knew how to do this problem and thought I answered it correctly, but apparently I misunderstood the concept or memorized a formula (or definition or theorem etc) incorrectly.

e) I knew how to do this problem and wouldn't change my answer if I had more time, but I wasn't expecting the grading to be so picky. This includes situations where you didn't show enough work or didn't show the expected work.

If you received most of the points,

f) I knew how to do this problem immediately.

g) I had to think a bit at some points, but I eventually figured out how to do this problem.

h) I didn't know how to do this problem, but I guessed and got lucky.

Your score on Exam __1__ : _90_ **Your new score with extra credit:__92.5__**

Problem 1 Score: **6/8**   Reason(s): **a**

Redo the problem if you lost points:

1.2 (B)

False. This is only true if A and B
are independent.

Problem 2 Score: **8/8**   Reason(s): **f**

Redo the problem if you lost points:

Problem 3 Score: **6/6**   Reason(s): **f**

Redo the problem if you lost points:

Problem 4 Score: *6/6*   Reason(s): *f*

Redo the problem if you lost points:

Problem 5 Score: *6/6*   Reason(s): *f*

Redo the problem if you lost points:

Problem 6 Score: *6/6*   Reason(s): *f*

Redo the problem if you lost points:

Problem 7 Score: 14/15   Reason(s): a, f

Redo the problem if you lost points:

$$P(Pos|Covid) = 0.9 \quad P(Neg|No\ Cov) = 0.9$$

$$P(Pos|No\ Covid) = 0.1$$

$$P(Covid|Pos) = \frac{P(Covid)\,P(Pos|Covid)}{P(Covid)\,P(Pos|Covid) + P(No\ Covid)\,P(Pos|No\ Covid)}$$

$$= \frac{0.01(0.9)}{0.01(0.9) + 0.99(0.1)}$$

Problem 8 Score: 15/15   Reason(s): f

Redo the problem if you lost points:

Problem 9 Score: 15/15   Reason(s): f

Redo the problem if you lost points:

Problem 10 Score: 8/15   Reason(s): a

Redo the problem if you lost points:

10.1 (a) Hyper-Geometric

$$P(x) = \frac{\binom{m}{x}\binom{N-m}{n-x}}{\binom{N}{n}} \quad \begin{array}{l} m=4 \\ N=15 \\ n=3 \end{array}$$

So $\quad P_x(x) = \dfrac{\binom{4}{x}\binom{11}{3-x}}{\binom{15}{3}}$

10.2 (b)

$$E(x) = \frac{nm}{N} = \frac{3(4)}{15} = \frac{12}{15}$$

Other Questions:

1. How did you study for this exam?

I memorized the formulas.

2. How did your studying compare to your studying for Exam 1?

This is for exam 1.

3. What was your strategy for taking the exam? How did this compare to the other exams?

My strategie was to do ever question then check them.
This my worst exam. I erased the right answer from 10a and 10b
and wrote wrong ones (second guessed myself).

4. Do you feel your strategies for studying and exam-taking were effective? Why or why not?

Yes, my points off were carelessness or second guessing myself.

5. What (if anything) will you do differently when you study for the final exam?

I will look at homework solutions. I also didn't do the
practice exam for this one.