CSCI 1311: Quiz 8

30 Mar 2020

Name: _____   **email:** _____

Question Weighting

Question:	1	2	3	Total
Points:	4	3	3	10
Score:				

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Submission Instructions

When submitting on gradescope, you can submit pictures of your answers. If you do so then ...

... you should upload a zoomed in image per question/part; do not submit a single large picture of an entire page if it can be practically avoided.

This will really help improve grading. For example, if I was answering the questions

> 5. What is the definition for a relation to be symmetric?
>
>

I would upload a zoomed in picture (like the one on the right) that clearly included the answer to Question 5. Perhaps the image would include the answer to some other questions, like Question 4 or 6, but each question is well marked and zoomed in for this group of related questions. **Please do not upload an entire page of answers, which makes it very difficult to grade, for example, to identify Question 5.**
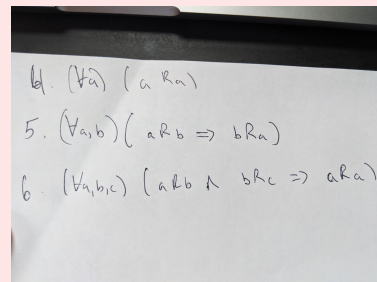
- The quiz is due to Gradescope at 2:59am EDT (11:59 PM PDT)

- You can learn the answer to the "Lab Question" by attending one of the lab sections.

> *Your answers should simply include the formula for each of the calculations, like x^n or $x^m - y^n$, or $x \cdot y \cdot z$ or $P(n,r)$ or $\binom{n}{r}$. You can write out the final counts if you like, but just riting a number is not sufficient for full credit.*

1. Consider passcodes that can only contain any letters A, B, C, D, and E and numbers $0, 1, 2, 3, 4$. A passcode contains 5 items, and repitition is allowed.

   (a) [**1 point**] How many passcodes exist where items can be repeated?

   (b) [**1 point**] How many passcodes exit where items cannot be repeated?

   (c) [**2 points**] How many passcodes contain at least a 4 or an A?

2. There is a bucket of balls, of which 5 are red, 4 are blue, and 3 are yellow.

   (a) [**1 point**] How many ways can 4 balls be drawn from this bucket?

   (b) [**2 points**] How many ways can 5 balls be drawn from the bucket where 2 are red and are 3 blue?

3. [**3 points**] What is the answer to the "Lab Question"