

CSc 245 Discrete Structures - Summer 2020

Quiz #7

Due Tuesday August 4th at 11:59pm (MST)

Blaine has 25 titles in his Netflix queue, 14 shows and 11 movies. The titles fall into 5 categories: Comedy, Drama, Crime, Action and Documentary. The number of movies and tv shows in each category are shown below.

	Movies	Shows
Comedy	4	5
Drama	2	1
Crime	1	2
Action	2	3
Documentary	2	3

1. (2 points) How many tv shows does Blaine need to add to guarantee that he has two shows that start with the same letter.
2. (2 points) Blaine has time to watch 2 movies and 1 tv show. He wants the movies to be either comedies or documentaries (or one of each), and the show to be drama or crime. How many different ways can he select 2 movies and a tv show to watch? Note: the two movies must be different.
3. (2 points) Blaine feels like watching either a comedy or a documentary, how many ways can he select a title to watch?
4. (2 points) Blaine's friend Don wants 3 recommendations for titles to watch. Don wants all titles to be either Comedy, Crime, or Action. How many ways can Blaine give Don 3 titles in these categories (e.g. one way could be to give him 2 comedies and one crime)?
5. (2 points) One of the titles in Blaine's queue is "Clueless". How many different distinguishable arrangements are there of the letters in "Clueless"?