Week 2 homework

You're the coach of a small football team, with 4 players. The players' names are Anna, Bruce, Conrad and Delores.

You want to arrange the four players in a row to take a team photo. For example, you could put Delores first, then Bruce, then Anna, then Conrad.

How many ways are there to arrange the players? Write a list of all possible arrangements.

What if there were only 3 players, or 5, or 2, or another number? Can you figure out a rule to calculate the number of arrangements?