ECE 131A HW 3

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Problem 1

Let C_{ij} be the event that the ith person grabs the jth person's coat, then we have that in order for all of them to have grabbed the wrong coat we could have two possible sequences, $C_{13}C_{21}C_{32}$ or $C_{12}C_{23}C_{31}$, both of these cases can happen with probability $\frac{1}{6}$ therefore the probability that everyone grabs the wrong coat is $\boxed{\dfrac{1}{3}}$

Problem 2

(a)

$$\boxed{\dfrac{1}{1000}}$$