3rd Assignment: Introduction To Probability
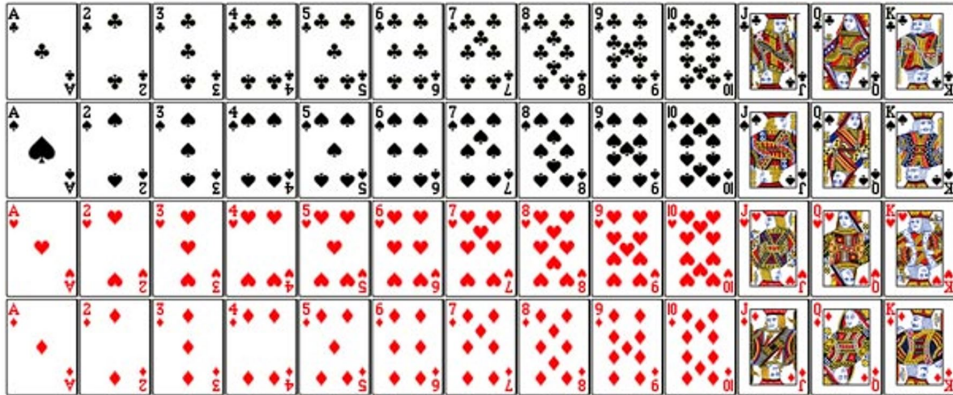
Undergraduate of Telecommunication Engineering

MUH1F3 - PROBABILITY AND STATISTICS

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♣ (Club)   ♠ (Spade)   ♥ (Heart)   ♦ (Diamond)

1. An attempt will be made to pick up one bridge card randomly (out of a total of 52 cards). Determine the probability:
   a. One card drawn is a card ♣ **AND** ♠
   b. One card drawn is a card ♣ **OR** ♠
   c. One card drawn is a card ♣ **OR** ♦
   d. One card drawn is a card ♡ **OR** ♦

2. If **A** and **B** are independent event, with $P(A \cap B) = 0.16$ and $P(\overline{A \cup B}) = 0.36$. Calculate the $P(A)$ dan $P(B)$!

3. Known $P(A) = 0.2$, $P(B) = 0.3$ and $P(A \cup B) = 0.44$. Are **A** and **B** independent?

4. Known $P(A) = P(B) = \mathfrak{p}$, $P(A \cup B) = 0.7$ and $P(A \cap B) = 0.2$. Calculate:
   4.1 $\mathfrak{p}$
   4.2 If $P(B \cup C) = 0.7$, **B** and **C** are independent, calculate $P(C)$

5. Given the relay circuit as shown below, it is assumed that each component works independently and the chance of component failure indicated on each block. Calculate the system reliability !
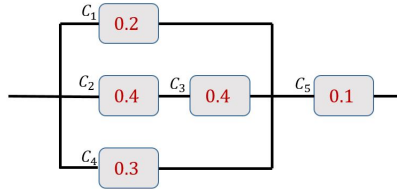
6. Given the relay circuit as shown below, it is assumed that each component works independently and the chance of component failure is **0.1**. Calculate the system reliability !