§1.6 SEQUENCES OF EVENTS.

* OFTEN RANDOM EXPERIMENTS/ PROCESSES HAVE MULTIPLE STEPS/STAGES.

GROUPS LET A, B, C BE EVENTS.

SHOW THAT:

$$\mathbb{P}(A \cap B \cap C) = \mathbb{P}(A)\,\mathbb{P}(B \mid A)\,\mathbb{P}(C \mid A \cap B)$$

PAIRWISE INDEPENDENCE:

$A_1, \ldots, A_n$ SUCH THAT A_i, A_j ARE INDEPENDENT (i.e. $P(A_i A_j) = P(A_i)P(A_j)$) FOR ALL $1 \leq i \neq j \leq n$.

GROUPS FIND AN EXAMPLE THAT SHOWS THAT

PW INDEP. $\neq$ INDEP.

GROUPS DECK OF CARDS IS WELL-SHUFFLED, AND 5 CARDS ARE DEALT.

P(FLUSH)

= P(ALL 5 OF SAME SUIT) = ?