

PROB M4/020 - 1
STUDENT T DIST.

2 BATCHES OF BEER. MEASURE ALC.

BATCH 1: 3.2, 3.0, 3.5, 3.6, 4

BATCH 2: 3.5, 3.2, 4, 3.9, 4.2

Q: IF THE 2 BATCHES HAVE SAME

ALC, WHAT'S PROB THAT THE
FHOSE ~~THAT~~
THAT COULD HAPPEN?

HYPOTHESIS TESTING

$$\mu_1 = 3.46$$

$$\mu_2 = 3.85$$

CDF OF MAX OR MIN

$$X_i = U[0,1]$$

$$F(x) = \begin{cases} 0 & x < 0 \\ x & 0 \leq x \leq 1 \\ 1 & x > 1 \end{cases}$$

$$W = \text{MAX}(X_1, \dots, X_n)$$

$$F(w) = \begin{cases} x^3 & 0 \leq x \leq 1 \\ 0 & x < 0 \\ 1 & x > 1 \end{cases}$$

CDF = 0 IF $X_1 < 0$ OR $X_2 < 0$
OR $X_3 < 0$

$$CDF(X_1, X_2, X_3) = \begin{cases} 0 & \text{IF ANY } X_i < 0 \\ X_2 & 0 \leq X_2 \leq 1 \\ & X_1, X_3 \geq 0 \\ 1 & \end{cases}$$