Winter 23 Final
Problem 6

6.1:

game type	rating
strategy	8.6
not	4.3
not	9.0
strategy	8.2
not	5.7

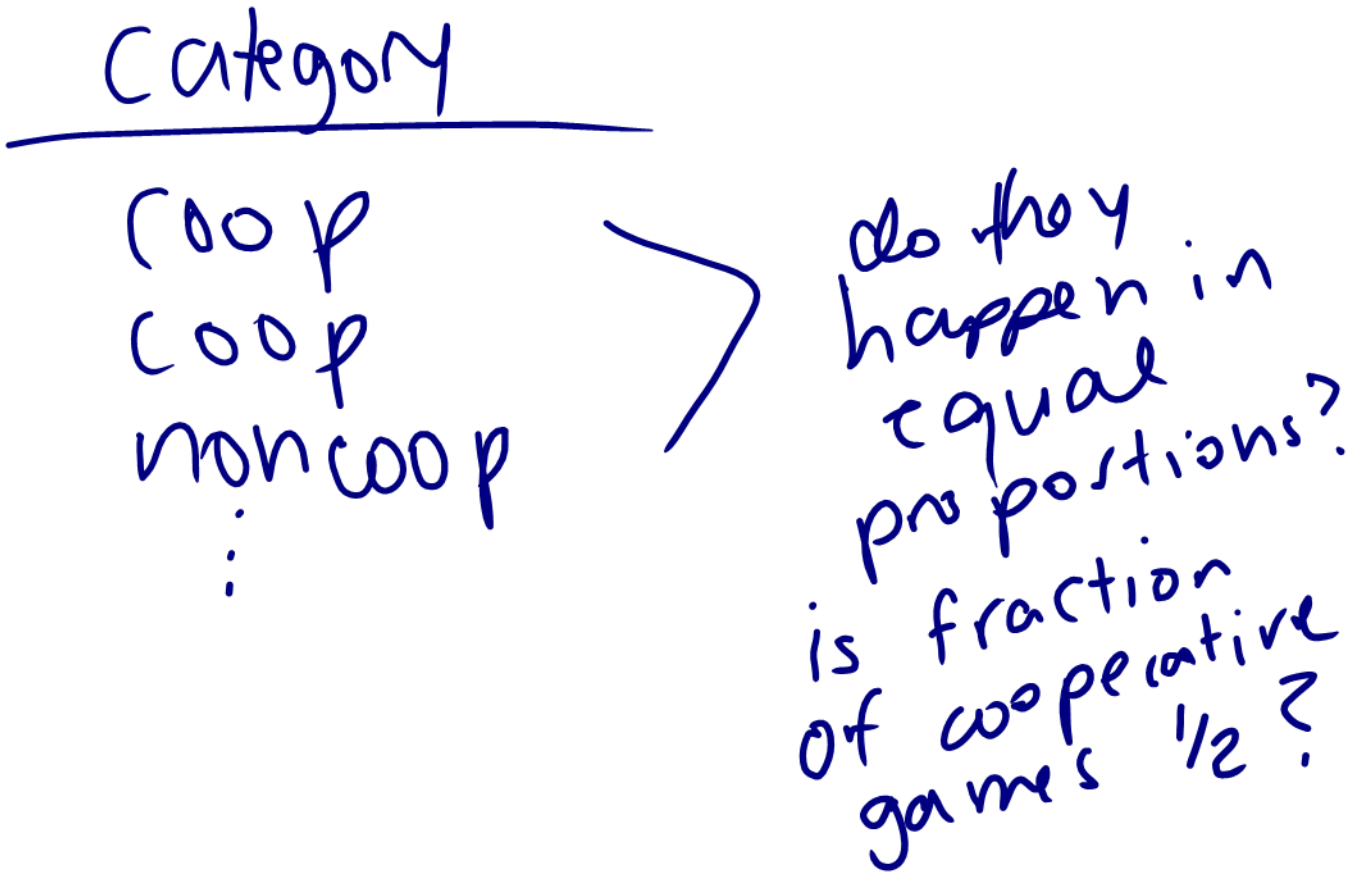
perm test

2 columns: 1 labels, 1 data

permutation testing answers: are these things like those things?

6.2 was bootstrapping because it's estimating a number

6.3:



Are there an equal number of cooperative and non-cooperative games?

hypothesis test because you're asking essentially: is the proportion of cooperative games equal to 0.5? that's like a proposed population distribution, and you're trying to see if your sample looks like it came from that

A permutation testing question would be: are cooperative games more expensive than noncooperative games?

Spring 24 final
problem 3.2, 6.6

Apartment ID	Rent	Bed	Bath	Laundry	Sqft	Neighborhood	Complex	Lease Term
84914	2500	One	1	True	714	UTC	Costa Verde Village	6 months
90742	4500	Two	1	True	920	UTC	Costa Verde Village	6 months
58323	2136	Studio	1	False	546	Midway	Bevel Apartments	1 year
32067	4965	Three	2	True	1500	UTC	La Regencia	1 year
12949	3230	Two	2	False	1020	La Jolla	Solazzo	6 months
47683	2800	One	1	True	550	UTC	Westwood	6 months
19880	2926	Studio	1	True	595	Serra Mesa	Ariva	1 year

Our goal is to create a DataFrame studio_avg where each complex with studio apartments appears once. The DataFrame should include a column named "Rent" that contains the average rent for all studio apartments in that complex.

after group by complex and bed

Complex	bed	rent
CVV	one	3000
CVV	two	4000
ABC	studio	1500
ABC	one	2000

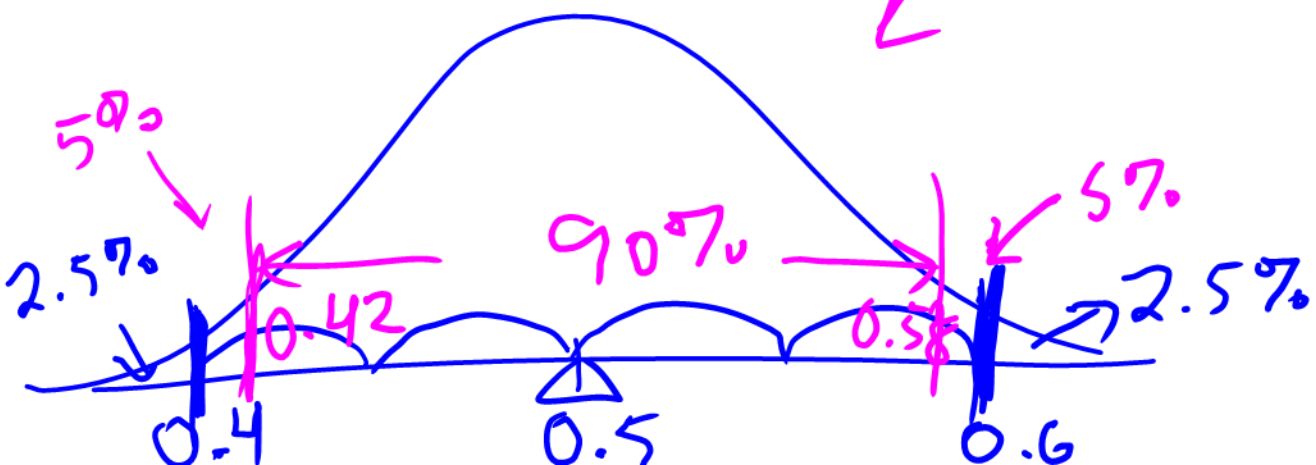
after group by complex and bed

Complex	bed	rent
CVV	one	3000
CVV	two	4000
~~ABC~~	~~studio~~	~~1000~~
ABC	one	2000

↓ group by complex (min)

complex	rent
CVV	3000
ABC	1000

Problem 6 prop 1 br

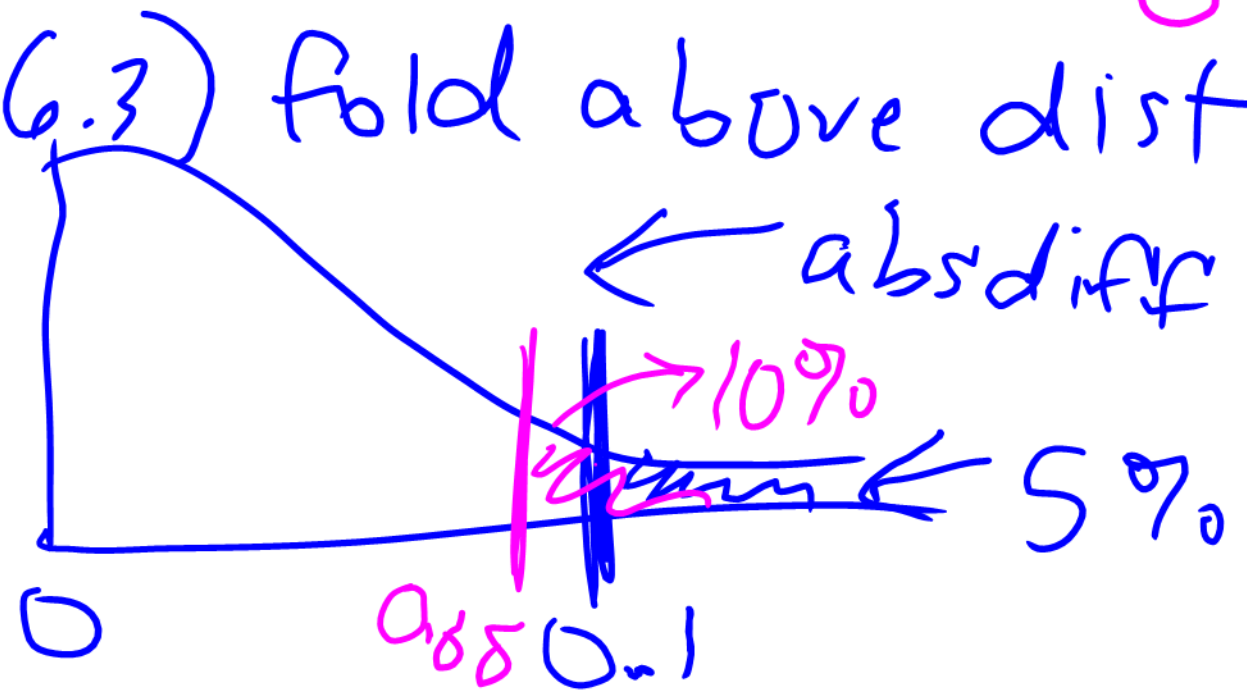


6.1) centered at 0.5

6.2) each jump is $\frac{0.6-0.5}{2}$

$= 0.05$

6.3) fold above dist



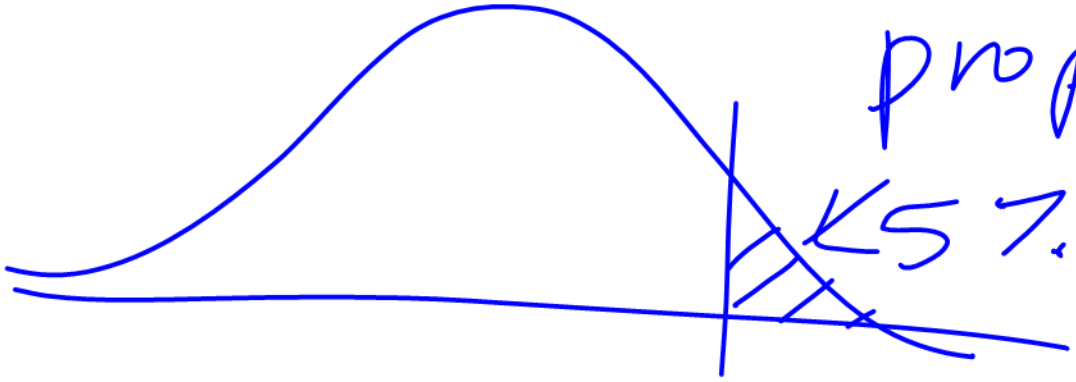
0.1 is 95%ile bc 5% is bigger

6.4) = vs > use propbr

direction matters

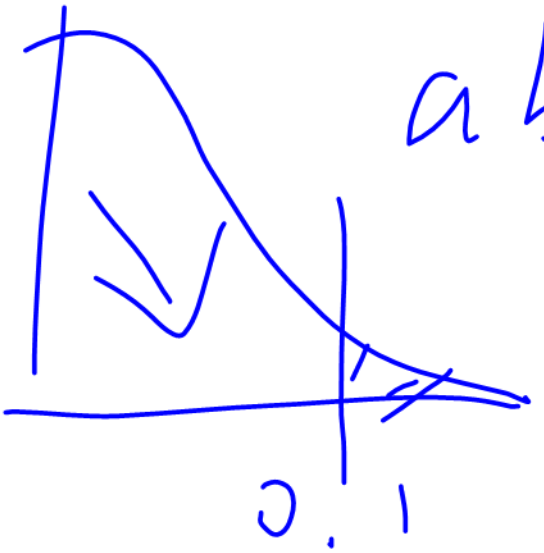
6.5) = vs ≠ use absdiff

reject the null for the first pair of hypotheses at the 5% significance level,
but fail to reject the null for the second pair at the 5% significance level



0.58

$\Rightarrow$ prop lbr $>$ 0.58



$\Rightarrow$ absdiff $<$ 0.1

$$0.4 < prop_{br} < 0.6$$

$$\Rightarrow prop_{br} \approx 0.5$$