Extra Questions

Q1. We would like to test if employees who work in the departments of data analytics, human resources, administrative, and other departments spend the same amount of time for meeting for a quarter (1st quarter of the year). Average meeting time for each department was collected. What type of test should we use?

A. t test

B. chi-square test

C. z test

D. One-way analysis of variance (one-way ANOVA)

Extra Questions

Q2. When doing an ANOVA, you observe small differences in means between groups. Within the ANOVA framework, this would most likely be interpreted as evidence strongly favoring the _____(H0/H1) hypothesis.

Extra Questions

Q3. What kind of test do we use to compare specific groups difference in one-way ANOVA?

A. t test

B. chi-square test

C. McNemar's test

D. F test

Extra Questions

Q4. For k=7, i.e. there are seven groups. How many pair-wise comparisons do we have?

A. 10

B. 15

C. 21

D. 28

Extra Questions

Q5. After Bonferroni correction, which test(s) stay statistically significant (adjusted $p \leqslant 0.05$)?

Suppose we have conducted 6 null hypothesis tests, with p-values as

Test #	p-value
1	0.006
2	0.035
3	0.002
4	0.041
5	0.023
6	0.078

A: all tests

B: 1 and 3

C: 1 and 4

D: 3 and 6

Extra Question

Q1. The table below shows how the risk ratio was obtained in a study investigating the risk of wound infections when an incidental appendectomy was done.

What is the risk ratio?

Had Incidental Appendectomy?	Wound Infection	No Wound Infection	Total	Cumulative Incidence
Yes	7	124	131	7/131 = 5.34%
No	1	78	79	1/79 = 1.27%

A. 0.24
B. 4.2
C. 5.34
D. 1.27

Extra Question

Q2. Which of the following is incorrect about relative risk (RR)?

A. RR=1 means the exposure is not associated with the disease

B. RR<0 means risk of disease is lower among people with the exposure

C. RR>1 means risk of disease is higher among people with the exposure

D. None of the above

Extra Question

Q3. Which of the following is incorrect about odds ratio (OR)?

A. OR refers to ratio of odds

B. OR is a measure of association for a case-control study

C. OR = odds of the exposure among controls divided by odds of the exposure among cases

D. None of the above

Extra Question

Q4. A case-control study of 1700 participants looked at the association between Tamoxifen and uterine cancer. The study included 689 cases. There were 139 cases and 58 controls taking Tamoxifen.
What is the odds ratio?

A. 6.86
B. 0.15
C. 0.24
D. 4.15

	Uterine Cancer	
Tamoxifen	Yes	No
Yes	139	58
No	550	953

Extra Question

Q5. Data were collected on 200 high schools students and are scores on various tests, including science, maths, reading and social studies. The variable female (1: female; 0: male).
"honcomp" refers to honors composition is used to represent the students' writing skills. A logistic regression model:
honcomp~b1*female+b2*read+b3*science
Estimate the odds in favor of getting honors composition for female compared with male after adjusting for reading skills and science subject score?

$\widehat{OR}$ **=_____ (to 2 decimal places)**

Logit estimates — Number of obs = 200; LR chi2(3) = 71.05; Prob > chi2 = 0.0000; Log likelihood = -80.11818; Pseudo R2 = 0.3072

honcomp	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
female	1.482498	.4473993	3.31	0.001	.6056111	2.359384
read	.1035361	.0257662	4.02	0.000	.0530354	.1540369
science	.0947902	.0304537	3.11	0.002	.035102	.1544784
_cons	-12.7772	1.97586	-6.47	0.000	-16.64982	-8.904589