HW9
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These are the solutions in blue to at least 60% of the problems for chapter 9 .
Everything that is not in blue is part of my notes.

Problem 9.9

part a

Name	Favorable	Unfavorable	Never heard	No opinion
Hillary R.	50.00%	42.00%	2.00%	6.00%
Hillary C.	46.00%	43.00%	2.00%	9.00%

Chi-squared = 4.23

In this case we can comfortably use the chi-square value to calculate p since this table is at least a two by two which conforms to the minimum requirements for calculating the chi-square value.

part b

The degrees of freedom for chi-squared in this case is 3.
df=(row-1)*(column-1)

part c

The p-value would be about 0.23 or between 0.20 and 0.25 .
This p-value seems reasonable for the data we have.

Problem 9.12

	df	Chi-square	~p-value
part a	1	1.25	P<0.25
part b	9	18.34	0.05<P<0.025
part c	7	24.1	0.0025<p<0.001
part d	8	12.17	0.15<p<0.10

Problem 9.21

part a

Tried low fat	women	men
yes	35	8
no	146	97

part b

19% of the women said yes and and 8% of the men said yes to low fat diets.

part c

df	Chi-square	expected	observed wy	observed my
1	7.14	0.98	35	8
			observed wn	observed mn
			146	97

Problem 9.21

part c

df	Chi-square	Tried low fat	women	men	marginal
1	7.1427	yes	35	8	0.15
		no	146	97	0.85
		marginal	0.63	0.37	1

Expected	Observed		
27.21	35	((O-E)^2)/E	2.23
15.79	8		3.84
153.79	146		0.39
89.21	97		0.68
		Chi-square->	7.1427

0.01<p<0.005

Problem 9.25

	observed males	females	df	Chi-square
visted flower	0	20	1	12
did not visit	21	29		

	Expected	Observed	6
Population=70	6	0	2.57
	14	20	2.4
	15	21	1.03
	35	29	
Chi-square->		Chi-square->	12.0000

0.001<p<0.0005

This test confirms that there is a relationship.

Problem 9.31

sum	city1	city2	income
132	70	62	>10,000
115	52	63	~15,000
119	69	50	~22,000
41	22	19	~28,000
52	28	24	<35,000
sum	241	218	
sum	459		

df	Chi-square	Observed	Expected	((O-E)^2)/E
4	8.58	70	62.69	0.85
		52	54.62	0.13
		69	56.52	2.76
		22	19.47	0.33
		28	24.7	0.44
		62	69.31	0.77
		63	60.38	0.11
		50	62.48	2.49
		19	21.53	0.3
		24	27.3	0.4
				8.58

0.01<p<0.05

0.19
0.08

7.14
2.67

3.9950