CSCI-4047-901
Tyler Burleson
Exercise 8

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   Cell Contents
|-------------------------|
|                   Count |
|         Expected Values |
| Chi-square contribution |
|             Row Percent |
|          Column Percent |
|           Total Percent |
|            Std Residual |
|-------------------------|

Total Observations in Table:  3481
```

	Students	Laborers	Preachers	Physicians	Housewives	Teachers	Lawyers	Musicians	Row Total
[1,]	390	378	35	159	78	108	11	31	1190
	683.712	170.928	102.557	71.790	68.371	49.911	25.639	17.093	
	126.174	250.859	44.501	105.943	1.356	67.607	8.359	11.315	
	32.773%	31.765%	2.941%	13.361%	6.555%	9.076%	0.924%	2.605%	34.186%
	19.500%	75.600%	11.667%	75.714%	39.000%	73.973%	14.667%	62.000%	
	11.204%	10.859%	1.005%	4.568%	2.241%	3.103%	0.316%	0.891%	
	-11.233	15.839	-6.671	10.293	1.164	8.222	-2.891	3.364	
[2,]	1610	122	265	51	122	38	64	19	2291
	1316.288	329.072	197.443	138.210	131.629	96.089	49.361	32.907	
	65.538	130.302	23.115	55.029	0.704	35.117	4.342	5.877	
	70.275%	5.325%	11.567%	2.226%	5.325%	1.659%	2.794%	0.829%	65.814%
	80.500%	24.400%	88.333%	24.286%	61.000%	26.027%	85.333%	38.000%	
	46.251%	3.505%	7.613%	1.465%	3.505%	1.092%	1.839%	0.546%	
	8.096	-11.415	4.808	-7.418	-0.839	-5.926	2.084	-2.424	
Column Total	2000	500	300	210	200	146	75	50	3481
	57.455%	14.364%	8.618%	6.033%	5.745%	4.194%	2.155%	1.436%	

```
Statistics for All Table Factors


Pearson's Chi-squared test
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Chi^2 =  936.1395     d.f. =  7     p =  7.523435e-198


       Minimum expected frequency: 17.09279
```

Chi^2 = 936.1395
p-value = 7.523435e-198
Minimum expected frequency: 17.09279

The χ2 is a higher value which indicates there is a greater discrepancy between the observed frequencies and what is to be expected if the variables were independent. The p-value is extremely small which indicates there is a significant relation between the variables. Finally, the minimum expected frequency is above 5, which helps assess that the Chi^2 assumptions are met.
With all of this data, this means there is a strong relationship between the variables being tested. In short, the test is good and statistically significant.