Anthony Le

ST 511 (Tu 16:00-16:50)

8 November 2016

Homework 6

Question 1:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | df | Sum of Squares | Mean Squares | F-statistic | p-value |
| Treatment | 3 | 335.35 | 111.7833 | 12.52053 | 0.00018 |
| Residuals | 16 | 142.85 | 8.928 |  |  |
| Total | 19 | 478.2 |  |  |  |

Question 2:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | df | Sum of Squares | Mean Squares | F-statistic | p-value |
| Treatment | 5 | 12734 | 2546.8 | 57.104 | 2.2e-16 |
| Residuals | 343 | 15297 | 44.6 |  |  |
| Total | 348 | 28031 |  |  |  |

1. Full model: and all populations are normal w/ std dev σ; separate means model; residuals row; a general modal that is found to adequately describe the data. [Residual df (343), Residual SS (15297)]

Reduced model: and all populations are normal w/ std dev σ; equal means model; totals row; a special case of the full model obtained by imposing the restrictions of the null hypothesis. [Total df (348), Total SS (28031)]

1. Extra SS=12734; extra df=5 (from Treatment row)
2. Residual df=343; residual SS=15297 for full model
3. Reduced model df and SS:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | df | Sum of Squares | Mean Squares | F-statistic | p-value |
| Residuals | 348 | 28031 | 80.55 |  |  |

1. Extra SS=residual SS from reduced means-residual SS from full model

12734=28031-15297