**Report for Linear Model Initial\_prediction**

*Basic Summary*

Call:

lm(formula = Avg.Sale.Amount ~ Customer.Segment + Store.Number + Responded.to.Last.Catalog + Avg.Num.Products.Purchased + X..Years.as.Customer, data = the.data)

Residuals:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Min | 1Q | Median | 3Q | Max |
| -666.30 | -67.15 | -2.53 | 71.12 | 973.30 |

Coefficients:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | Estimate | Std. Error | t value | Pr(>|t|) |  | | (Intercept) | 327.0135 | 13.976 | 23.39859 | < 2.2e-16 | \*\*\* | | Customer.SegmentLoyalty Club Only | -150.0280 | 8.982 | -16.70353 | < 2.2e-16 | \*\*\* | | Customer.SegmentLoyalty Club and Credit Card | 283.6100 | 11.916 | 23.80030 | < 2.2e-16 | \*\*\* | | Customer.SegmentStore Mailing List | -242.9831 | 9.827 | -24.72667 | < 2.2e-16 | \*\*\* | | Store.Number101 | -5.5294 | 11.235 | -0.49214 | 0.62267 |  | | Store.Number102 | -8.6893 | 16.743 | -0.51897 | 0.60383 |  | | Store.Number103 | -4.4862 | 11.903 | -0.37688 | 0.70629 |  | | Store.Number104 | -21.2748 | 11.303 | -1.88229 | 0.05992 | . | | Store.Number105 | -20.9124 | 10.951 | -1.90956 | 0.05631 | . | | Store.Number106 | -18.1956 | 11.175 | -1.62823 | 0.10361 |  | | Store.Number107 | -14.7112 | 11.899 | -1.23631 | 0.21647 |  | | Store.Number108 | -12.0088 | 12.158 | -0.98773 | 0.32339 |  | | Store.Number109 | -0.1426 | 13.024 | -0.01095 | 0.99127 |  | | Responded.to.Last.CatalogYes | -29.1449 | 11.277 | -2.58455 | 0.00981 | \*\* | | Avg.Num.Products.Purchased | 66.7485 | 1.517 | 43.99951 | < 2.2e-16 | \*\*\* | | X..Years.as.Customer | -2.3737 | 1.224 | -1.93886 | 0.05264 | . | |
| Significance codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1 |

Residual standard error: 137.28 on 2359 degrees of freedom

Multiple R-squared: 0.8381, Adjusted R-Squared: 0.8371

F-statistic: 814.2 on 15 and 2359 DF, p-value: < 2.2e-16

*Type II ANOVA Analysis*

|  |
| --- |
| Response: Avg.Sale.Amount |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | Sum Sq | DF | F value | Pr(>F) |  | | Customer.Segment | 28414788.81 | 3 | 502.58 | < 2.2e-16 | \*\*\* | | Store.Number | 153560.19 | 9 | 0.91 | 0.51948 |  | | Responded.to.Last.Catalog | 125889.2 | 1 | 6.68 | 0.00981 | \*\* | | Avg.Num.Products.Purchased | 36485035.54 | 1 | 1935.96 | < 2.2e-16 | \*\*\* | | X..Years.as.Customer | 70845.8 | 1 | 3.76 | 0.05264 | . | | Residuals | 44457704.7 | 2359 |  |  |  | |
| Significance codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1 |

*Basic Diagnostic Plots*

