Art Theater Project

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```r
# Main question: How does quantity change as the categories of event and ticket type change?
# Main target: Finding most targeting group from four major consumer types(students, adults, members, s

# 1. Processing Data ("ticket_sales_by_showing.txt" and "gross_revenue_by_event.txt")
# a. ticket_sales_by_showing.txt
# Overall information
file.info("ticket_sales_by_showing.txt")$size
```

```
## [1] 902417
```

```r
ticket_sales_ <- read.csv("ticket_sales_by_showing.txt")

# Filtering data of ticket sales in Auguest 2019, the last month the theater opens
ticket_sale <- ticket_sales_[grepl("2019", ticket_sales_$EventDate) & grepl("Aug", ticket_sales_$EventDa
ticket_sale <- ticket_sale[,c(-1,-3,-4,-7,-8)]

# count the occurrences of different movies and drop the movies occur below 15
table(ticket_sale$EventName)
```

```
##
##                    A Faithful Man                       American Woman
##                                1                                   13
##                Echo In The Canyon                                 Luce
##                               22                                    5
##                           Maiden                              Ophelia
##                               15                                   15
##                        Pavarotti                        Pet Sematary
##                               21                                    4
##                    Sword of Trust                  The Dead Don't Die
##                               10                                    9
##                      The Farewell The Last Black Man in San Francisco
##                               66                                    6
##                   The Nightingale      Toni Morrison: The Pieces I am
##                                4                                    9
```

```r
ticket_sale_ <- ticket_sale[ticket_sale$EventName == 'Echo In The Canyon' | ticket_sale$EventName == "Ma
# Set event name, ticket type, and item price as factor parameters, quantity as the respond variable
ticket_sale_$EventName <- as.factor(ticket_sale_$EventName)
is.factor(ticket_sale_$EventName)
```

```
## [1] TRUE
```

```r
table(ticket_sale_$EventName)
```

```
##
```

```
## Echo In The Canyon              Maiden            Ophelia           Pavarotti
##                 22                15                15                21
##         The Farewell
##                 66
```
```
nlevels(ticket_sale_$EventName)
```
```
## [1] 5
```
```
ticket_sale_$TicketType <- as.factor(ticket_sale_$TicketType)
nlevels(ticket_sale_$TicketType)
```
```
## [1] 4
```
```
ticket_sale_
```
```
##                 EventName      TicketType Quantity
## 1441 Echo In The Canyon          Adult       13
## 1443 Echo In The Canyon Senior Citizen       10
## 1444 Echo In The Canyon        Student        1
## 1445 Echo In The Canyon          Adult        4
## 1447 Echo In The Canyon         Member        2
## 1448 Echo In The Canyon Senior Citizen       11
## 1449 Echo In The Canyon          Adult       10
## 1450 Echo In The Canyon Senior Citizen       29
## 1451 Echo In The Canyon        Student        1
## 1452 Echo In The Canyon          Adult        3
## 1453 Echo In The Canyon Senior Citizen        8
## 1454 Echo In The Canyon          Adult       13
## 1455 Echo In The Canyon Senior Citizen       18
## 1459 Echo In The Canyon         Member        1
## 1460 Echo In The Canyon          Adult        8
## 1461 Echo In The Canyon Senior Citizen        8
## 1462 Echo In The Canyon        Student        2
## 1463 Echo In The Canyon          Adult        4
## 1464 Echo In The Canyon Senior Citizen       13
## 1465 Echo In The Canyon          Adult       12
## 1466 Echo In The Canyon Senior Citizen       23
## 1467 Echo In The Canyon        Student        1
## 3438             Maiden          Adult        6
## 3440             Maiden Senior Citizen       10
## 3441             Maiden          Adult        6
## 3442             Maiden Senior Citizen        7
## 3443             Maiden          Adult       18
## 3444             Maiden Senior Citizen       16
## 3445             Maiden        Student        1
## 3446             Maiden          Adult       12
## 3447             Maiden Senior Citizen       10
## 3448             Maiden        Student        1
## 3450             Maiden          Adult        4
## 3452             Maiden         Member        1
## 3453             Maiden Senior Citizen        8
## 3455             Maiden          Adult       14
## 3456             Maiden Senior Citizen       11
## 4367            Ophelia          Adult        4
## 4368            Ophelia Senior Citizen        4
```

```
## 4369         Ophelia          Adult      3
## 4371         Ophelia Senior Citizen      4
## 4372         Ophelia          Adult      6
## 4373         Ophelia         Member      2
## 4374         Ophelia Senior Citizen      9
## 4375         Ophelia        Student      2
## 4377         Ophelia         Member      1
## 4378         Ophelia          Adult      4
## 4379         Ophelia Senior Citizen      4
## 4380         Ophelia        Student      6
## 4381         Ophelia          Adult      4
## 4382         Ophelia Senior Citizen      9
## 4383         Ophelia        Student      1
## 4486       Pavarotti          Adult      7
## 4487       Pavarotti         Member      1
## 4488       Pavarotti Senior Citizen     20
## 4489       Pavarotti        Student      3
## 4490       Pavarotti          Adult     15
## 4491       Pavarotti Senior Citizen     49
## 4493       Pavarotti          Adult     13
## 4495       Pavarotti         Member      1
## 4496       Pavarotti Senior Citizen     49
## 4497       Pavarotti        Student      1
## 4498       Pavarotti          Adult      4
## 4499       Pavarotti         Member      1
## 4500       Pavarotti Senior Citizen     47
## 4501       Pavarotti          Adult     26
## 4503       Pavarotti         Member      3
## 4504       Pavarotti Senior Citizen    109
## 4506       Pavarotti          Adult      7
## 4507       Pavarotti Senior Citizen     41
## 4508       Pavarotti          Adult      7
## 4510       Pavarotti Senior Citizen     36
## 4511       Pavarotti        Student      6
## 5690    The Farewell Senior Citizen      4
## 5691    The Farewell        Student      2
## 5692    The Farewell          Adult     20
## 5694    The Farewell Senior Citizen     10
## 5695    The Farewell        Student      6
## 5696    The Farewell Senior Citizen      2
## 5697    The Farewell          Adult     14
## 5698    The Farewell         Member      1
## 5699    The Farewell Senior Citizen     18
## 5700    The Farewell        Student      1
## 5701    The Farewell          Adult     23
## 5702    The Farewell Senior Citizen     17
## 5703    The Farewell        Student      5
## 5704    The Farewell          Adult     19
## 5705    The Farewell Senior Citizen     15
## 5706    The Farewell        Student      8
## 5707    The Farewell          Adult     12
## 5708    The Farewell Senior Citizen      3
## 5709    The Farewell        Student      4
## 5710    The Farewell          Adult     16
```

```
## 5711        The Farewell Senior Citizen          7
## 5712        The Farewell         Student          5
## 5713        The Farewell           Adult          4
## 5715        The Farewell Senior Citizen         10
## 5716        The Farewell         Student          1
## 5717        The Farewell           Adult         13
## 5718        The Farewell Senior Citizen          4
## 5719        The Farewell         Student          7
## 5721        The Farewell           Adult          7
## 5722        The Farewell         Student          1
## 5723        The Farewell           Adult         18
## 5724        The Farewell Senior Citizen          4
## 5725        The Farewell         Student          8
## 5726        The Farewell           Adult         10
## 5727        The Farewell Senior Citizen         10
## 5728        The Farewell         Student          1
## 5729        The Farewell           Adult         17
## 5731        The Farewell Senior Citizen          9
## 5732        The Farewell         Student          5
## 5733        The Farewell           Adult          1
## 5734        The Farewell          Member          1
## 5735        The Farewell Senior Citizen          4
## 5736        The Farewell           Adult         18
## 5737        The Farewell Senior Citizen          4
## 5738        The Farewell         Student          8
## 5740        The Farewell           Adult          9
## 5741        The Farewell Senior Citizen          4
## 5742        The Farewell         Student          1
## 5743        The Farewell           Adult          7
## 5744        The Farewell Senior Citizen          2
## 5745        The Farewell         Student          2
## 5747        The Farewell           Adult          8
## 5748        The Farewell Senior Citizen          9
## 5749        The Farewell         Student          6
## 5750        The Farewell           Adult         10
## 5753        The Farewell Senior Citizen          4
## 5754        The Farewell         Student         13
## 5759        The Farewell          Member          1
## 5760        The Farewell Senior Citizen          5
## 5761        The Farewell         Student          2
## 5762        The Farewell           Adult          4
## 5764        The Farewell Senior Citizen          7
## 5765        The Farewell         Student          5
## 5766        The Farewell           Adult          9
## 5767        The Farewell Senior Citizen          1
## 5768        The Farewell         Student          2
```

```
# Now the data frame of ticket sales is the data represents the events that have relatively complete re

# b. gross_revenue_by_event.txt
file.info("gross_revenue_by_event.txt")$size
```

```
## [1] 13061
```

```r
gross_revenue <- read.csv("gross_revenue_by_event.txt")

# Filtering data of five movies selected
gross_revenue_ <- gross_revenue[gross_revenue$Event == 'Echo In The Canyon' | gross_revenue$Event == "Ma
gross_revenue_
```

```
##                   Event Gross.Revenue
## 110 Echo In The Canyon     $1,808.00
## 210             Maiden     $1,293.25
## 261            Ophelia       $561.75
## 265          Pavarotti     $3,716.00
## 356        The Farewell    $4,322.25
```
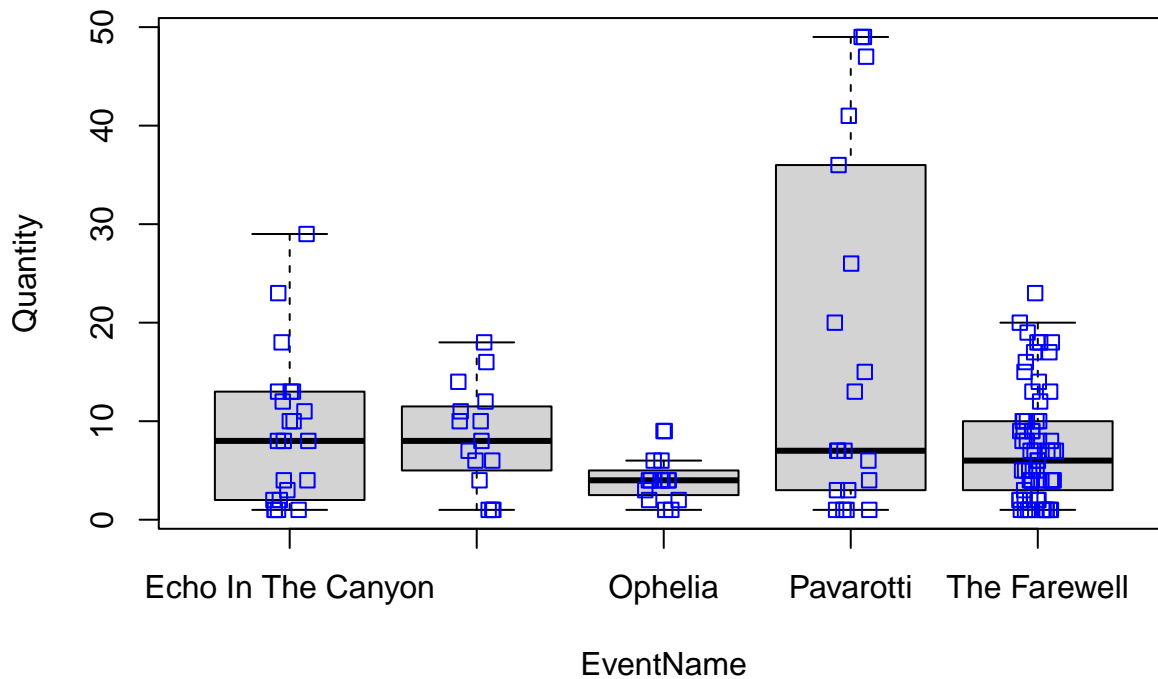
```r
# Now the data frame of gross revenue is the data represents the events that have relatively complete r
```

```r
# 2. Two-Way Anova
boxplot(Quantity~EventName, data = ticket_sale_, outline=FALSE)
stripchart(Quantity~EventName, data=ticket_sale_, method="jitter", col="blue", vertical=TRUE, add=TRUE)
```


Based on this plot, we find that five events are at the same level except ophelia and we cannot tell whether there is a statistically difference here.

```r
boxplot(Quantity~TicketType, data = ticket_sale_, outline=FALSE)
stripchart(Quantity~TicketType, data=ticket_sale_, method="jitter", col="blue", vertical=TRUE, add=TRUE)
```
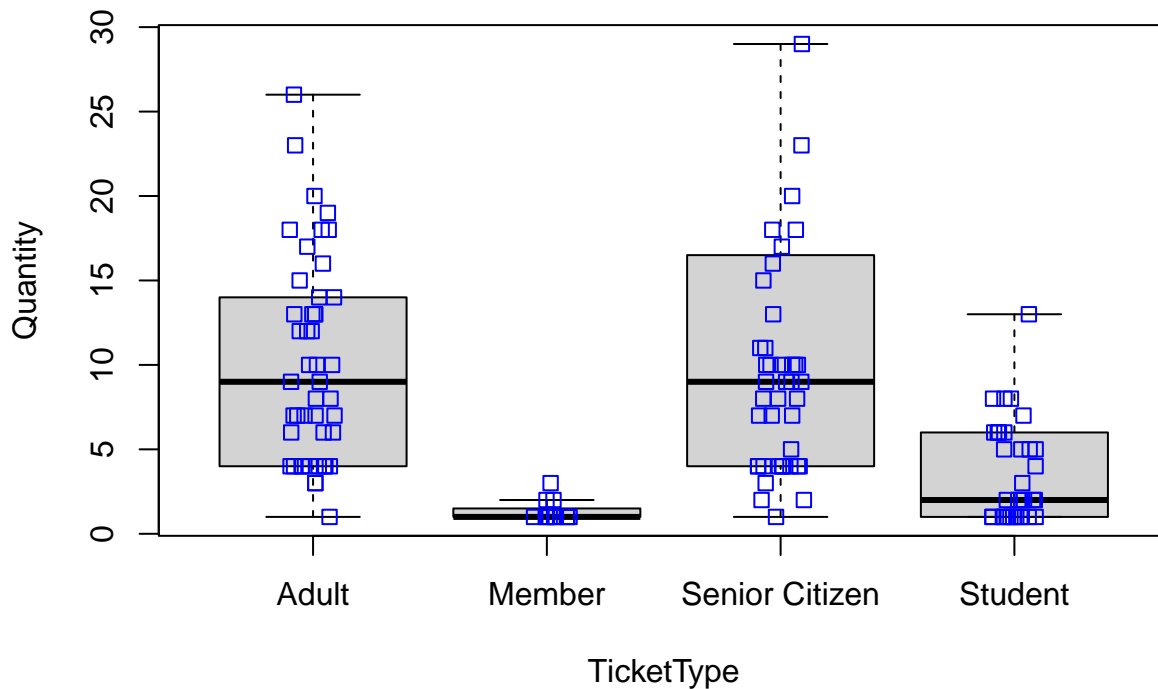
Based on this plot, we find that quantity at all four levels are at different level but adult and senior citizen, student and member have relatively same level. However, we cannot tell whether there is a statistically difference here since there are boxes overlap here.
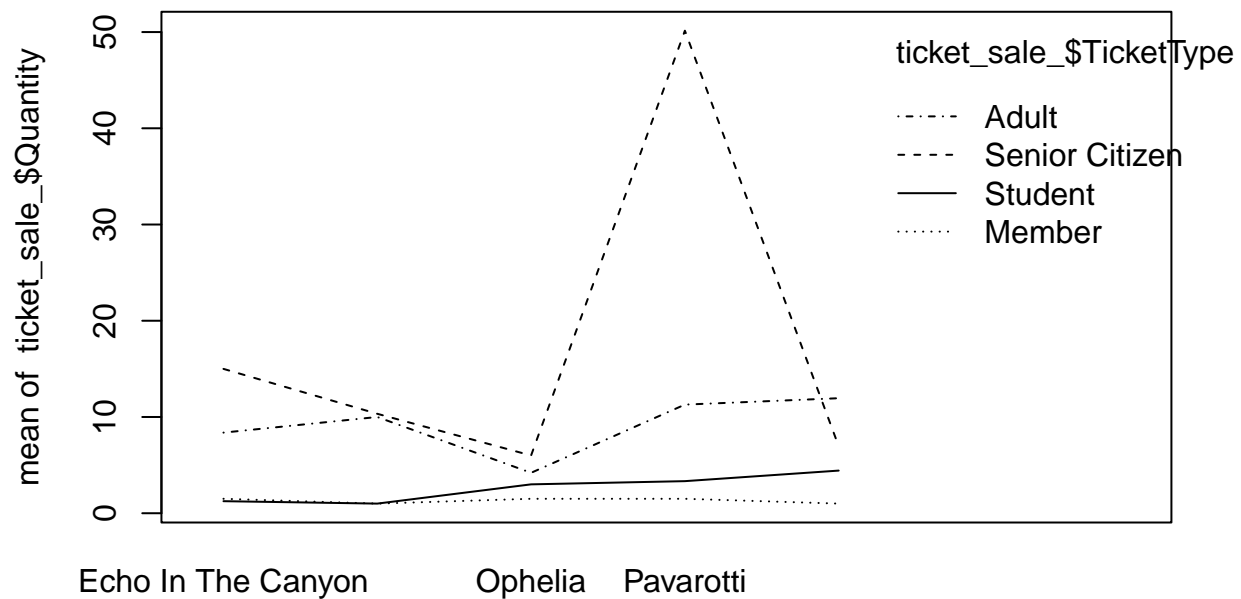
```
# construct the interaction plots
interaction.plot(ticket_sale_$TicketType, ticket_sale_$EventName, ticket_sale_$Quantity)
```
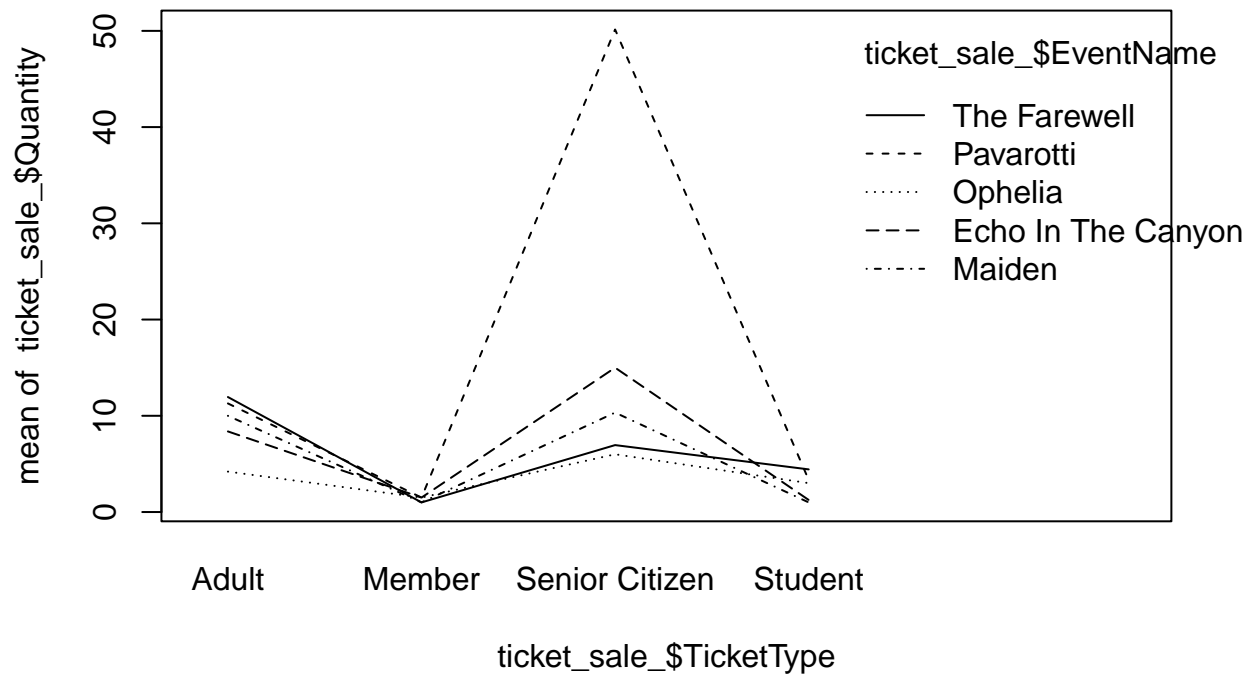


```
interaction.plot(ticket_sale_$EventName, ticket_sale_$TicketType, ticket_sale_$Quantity)
```

There are interceptions in both groups

```r
# Investigate whether the interactions are statistically significant or not
# start with the model with interactions
library(car)
```

```
## Loading required package: carData
```

```r
ticket_sale_full = lm(Quantity ~ EventName*TicketType, data = ticket_sale_)
summary(ticket_sale_full)
```

```
##
## Call:
## lm(formula = Quantity ~ EventName * TicketType, data = ticket_sale_)
##
## Residuals:
##     Min     1Q  Median     3Q     Max
## -30.143  -2.955  -0.333   2.048  58.857
##
## Coefficients:
##                                          Estimate Std. Error t value
## (Intercept)                                8.3750     2.7510   3.044
## EventNameMaiden                            1.6250     4.2022   0.387
## EventNameOphelia                          -4.1750     4.4359  -0.941
## EventNamePavarotti                         2.9107     4.0271   0.723
## EventNameThe Farewell                      3.5750     3.2550   1.098
## TicketTypeMember                          -6.8750     6.1514  -1.118
## TicketTypeSenior Citizen                   6.6250     3.8905   1.703
## TicketTypeStudent                         -7.1250     4.7649  -1.495
## EventNameMaiden:TicketTypeMember          -2.1250    10.4151  -0.204
## EventNameOphelia:TicketTypeMember          4.1750     8.9566   0.466
## EventNamePavarotti:TicketTypeMember       -2.9107     7.8502  -0.371
## EventNameThe Farewell:TicketTypeMember     -4.0750    7.8134  -0.522
## EventNameMaiden:TicketTypeSenior Citizen  -6.2917     5.9428  -1.059
```

```
## EventNameOphelia:TicketTypeSenior Citizen          -4.8250     6.2733  -0.769
## EventNamePavarotti:TicketTypeSenior Citizen        32.2321     5.6951   5.660
## EventNameThe Farewell:TicketTypeSenior Citizen    -11.6205     4.5733  -2.541
## EventNameMaiden:TicketTypeStudent                   -1.8750     7.9415  -0.236
## EventNameOphelia:TicketTypeStudent                   5.9250     7.4158   0.799
## EventNamePavarotti:TicketTypeStudent                -0.8274     7.1788  -0.115
## EventNameThe Farewell:TicketTypeStudent             -0.3964     5.3492  -0.074
##                                                   Pr(>|t|)
## (Intercept)                                        0.00287 **
## EventNameMaiden                                    0.69967
## EventNameOphelia                                   0.34851
## EventNamePavarotti                                 0.47123
## EventNameThe Farewell                              0.27429
## TicketTypeMember                                   0.26598
## TicketTypeSenior Citizen                           0.09120 .
## TicketTypeStudent                                  0.13748
## EventNameMaiden:TicketTypeMember                   0.83868
## EventNameOphelia:TicketTypeMember                  0.64197
## EventNamePavarotti:TicketTypeMember                0.71146
## EventNameThe Farewell:TicketTypeMember             0.60296
## EventNameMaiden:TicketTypeSenior Citizen           0.29188
## EventNameOphelia:TicketTypeSenior Citizen          0.44334
## EventNamePavarotti:TicketTypeSenior Citizen       1.07e-07 ***
## EventNameThe Farewell:TicketTypeSenior Citizen     0.01234 *
## EventNameMaiden:TicketTypeStudent                  0.81376
## EventNameOphelia:TicketTypeStudent                 0.42590
## EventNamePavarotti:TicketTypeStudent               0.90844
## EventNameThe Farewell:TicketTypeStudent            0.94105
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 7.781 on 119 degrees of freedom
## Multiple R-squared:  0.6651, Adjusted R-squared:  0.6116
## F-statistic: 12.44 on 19 and 119 DF,  p-value: < 2.2e-16
Anova(lm(Quantity ~ EventName*TicketType, data = ticket_sale_), type = "III")
```

```
## Anova Table (Type III tests)
##
## Response: Quantity
##                      Sum Sq  Df F value    Pr(>F)
## (Intercept)           561.1   1  9.2680  0.002871 **
## EventName             276.2   4  1.1403  0.340956
## TicketType            643.5   3  3.5427  0.016768 *
## EventName:TicketType 7045.5  12  9.6975 6.076e-13 ***
## Residuals            7204.8 119
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

The p-value of interaction here is 6.076e-13, which is statistically significant, so we don't remove it and the full model is the final model.

```
# 3. Check Model Assumption
par(mfrow=c(1,2))
plot(ticket_sale_full$fitted, ticket_sale_full$res, xlab="Fitted", ylab="Residuals")
```

```
# Checking Constancy of Variance
plot(ticket_sale_full, which = 1)
library(lmtest)
```

```
## Loading required package: zoo
```

```
##
## Attaching package: 'zoo'
```

```
## The following objects are masked from 'package:base':
##
##      as.Date, as.Date.numeric
```


Residuals vs Fitted
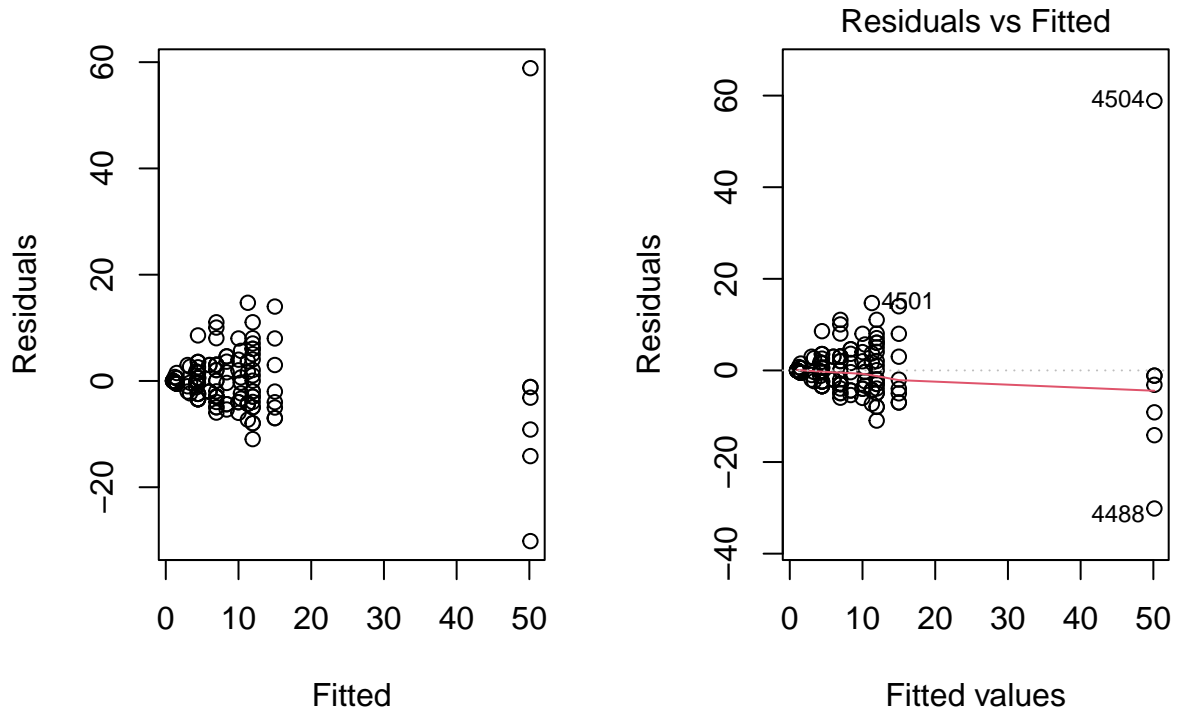
```
bptest(ticket_sale_full)
```

```
##
##  studentized Breusch-Pagan test
##
## data:  ticket_sale_full
## BP = 30.89, df = 19, p-value = 0.0415
```

```
# Checking Normality
qqnorm(ticket_sale_full$res)
hist(ticket_sale_full$residuals)
```
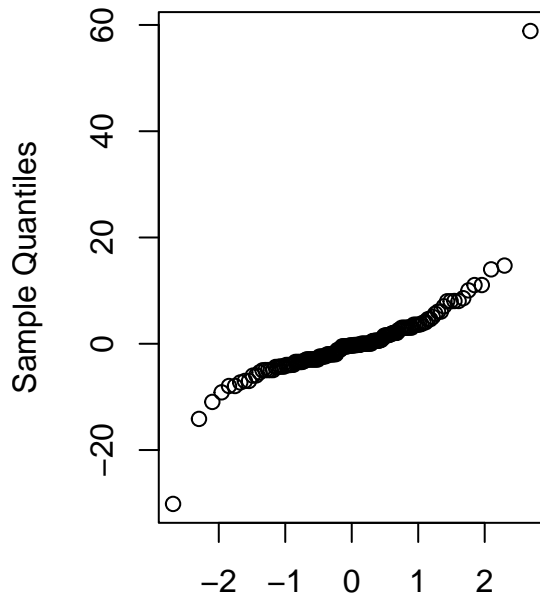
Normal Q–Q Plot　　　**Histogram of ticket_sale_full$resid**
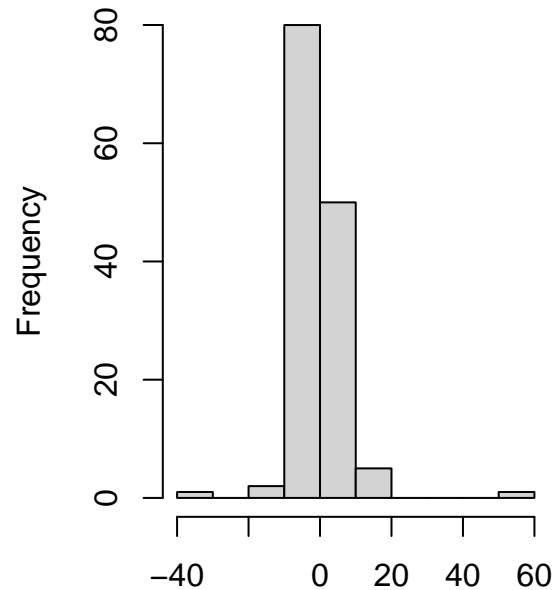

```
shapiro.test(ticket_sale_full$residuals)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  ticket_sale_full$residuals
## W = 0.68602, p-value = 7.451e-16
```

Reject null hypothesis in both bp test and shapiro test, which indicates that the model satisfies normality and constant varance assumptions. No model transformation needed.

```
# 4. Pairwise Comparisons
library(DescTools)
```

```
##
## Attaching package: 'DescTools'
```

```
## The following object is masked from 'package:car':
##
##     Recode
```

```
ANOVA=aov(ticket_sale_full)
ScheffeTest(ANOVA)
```

```
##
##   Posthoc multiple comparisons of means: Scheffe Test
##     95% family-wise confidence level
##
## $EventName
##                              diff     lwr.ci    upr.ci   pval
## Maiden-Echo In The Canyon   -0.5303030 -15.226833 14.166227 1.0000
## Ophelia-Echo In The Canyon  -4.6636364 -19.360166 10.032893 1.0000
```

```
## Pavarotti-Echo In The Canyon      12.3744589  -1.015651 25.764569 0.1255
## The Farewell-Echo In The Canyon   -1.4696970 -12.274801  9.335407 1.0000
## Ophelia-Maiden                     -4.1333333 -20.159892 11.893225 1.0000
## Pavarotti-Maiden                   12.9047619  -1.932948 27.742472 0.2185
## The Farewell-Maiden                -0.9393939 -13.493790 11.615002 1.0000
## Pavarotti-Ophelia                  17.0380952   2.200385 31.875805 0.0053 **
## The Farewell-Ophelia                3.1939394  -9.360457 15.748335 1.0000
## The Farewell-Pavarotti            -13.8441558 -24.840515 -2.847797 0.0007 ***
##
## $TicketType
##                              diff     lwr.ci     upr.ci   pval
## Member-Adult            -11.065048 -25.292115  3.1620187 0.4517
## Senior Citizen-Adult      4.875302  -4.180675 13.9312787 0.9642
## Student-Adult            -5.589973 -15.602612  4.4226667 0.9480
## Senior Citizen-Member    15.940350   1.774740 30.1059603 0.0077 **
## Student-Member            5.475075  -9.320422 20.2705729 0.9997
## Student-Senior Citizen  -10.465274 -20.390396 -0.5401531 0.0234 *
##
## $`EventName:TicketType`
##                                                                      diff
## Maiden:Adult-Echo In The Canyon:Adult                        1.625000e+00
## Ophelia:Adult-Echo In The Canyon:Adult                      -4.175000e+00
## Pavarotti:Adult-Echo In The Canyon:Adult                     2.910714e+00
## The Farewell:Adult-Echo In The Canyon:Adult                  3.575000e+00
## Echo In The Canyon:Member-Echo In The Canyon:Adult          -6.875000e+00
## Maiden:Member-Echo In The Canyon:Adult                      -7.375000e+00
## Ophelia:Member-Echo In The Canyon:Adult                     -6.875000e+00
## Pavarotti:Member-Echo In The Canyon:Adult                   -6.875000e+00
## The Farewell:Member-Echo In The Canyon:Adult                -7.375000e+00
## Echo In The Canyon:Senior Citizen-Echo In The Canyon:Adult   6.625000e+00
## Maiden:Senior Citizen-Echo In The Canyon:Adult               1.958333e+00
## Ophelia:Senior Citizen-Echo In The Canyon:Adult             -2.375000e+00
## Pavarotti:Senior Citizen-Echo In The Canyon:Adult            4.176786e+01
## The Farewell:Senior Citizen-Echo In The Canyon:Adult        -1.420455e+00
## Echo In The Canyon:Student-Echo In The Canyon:Adult         -7.125000e+00
## Maiden:Student-Echo In The Canyon:Adult                     -7.375000e+00
## Ophelia:Student-Echo In The Canyon:Adult                    -5.375000e+00
## Pavarotti:Student-Echo In The Canyon:Adult                  -5.041667e+00
## The Farewell:Student-Echo In The Canyon:Adult               -3.946429e+00
## Ophelia:Adult-Maiden:Adult                                  -5.800000e+00
## Pavarotti:Adult-Maiden:Adult                                 1.285714e+00
## The Farewell:Adult-Maiden:Adult                              1.950000e+00
## Echo In The Canyon:Member-Maiden:Adult                      -8.500000e+00
## Maiden:Member-Maiden:Adult                                  -9.000000e+00
## Ophelia:Member-Maiden:Adult                                 -8.500000e+00
## Pavarotti:Member-Maiden:Adult                               -8.500000e+00
## The Farewell:Member-Maiden:Adult                            -9.000000e+00
## Echo In The Canyon:Senior Citizen-Maiden:Adult               5.000000e+00
## Maiden:Senior Citizen-Maiden:Adult                           3.333333e-01
## Ophelia:Senior Citizen-Maiden:Adult                         -4.000000e+00
## Pavarotti:Senior Citizen-Maiden:Adult                        4.014286e+01
## The Farewell:Senior Citizen-Maiden:Adult                    -3.045455e+00
## Echo In The Canyon:Student-Maiden:Adult                     -8.750000e+00
## Maiden:Student-Maiden:Adult                                 -9.000000e+00
```

```
## Ophelia:Student-Maiden:Adult                                      -7.000000e+00
## Pavarotti:Student-Maiden:Adult                                     -6.666667e+00
## The Farewell:Student-Maiden:Adult                                  -5.571429e+00
## Pavarotti:Adult-Ophelia:Adult                                       7.085714e+00
## The Farewell:Adult-Ophelia:Adult                                    7.750000e+00
## Echo In The Canyon:Member-Ophelia:Adult                            -2.700000e+00
## Maiden:Member-Ophelia:Adult                                        -3.200000e+00
## Ophelia:Member-Ophelia:Adult                                       -2.700000e+00
## Pavarotti:Member-Ophelia:Adult                                     -2.700000e+00
## The Farewell:Member-Ophelia:Adult                                  -3.200000e+00
## Echo In The Canyon:Senior Citizen-Ophelia:Adult                     1.080000e+01
## Maiden:Senior Citizen-Ophelia:Adult                                 6.133333e+00
## Ophelia:Senior Citizen-Ophelia:Adult                                1.800000e+00
## Pavarotti:Senior Citizen-Ophelia:Adult                              4.594286e+01
## The Farewell:Senior Citizen-Ophelia:Adult                           2.754545e+00
## Echo In The Canyon:Student-Ophelia:Adult                           -2.950000e+00
## Maiden:Student-Ophelia:Adult                                       -3.200000e+00
## Ophelia:Student-Ophelia:Adult                                      -1.200000e+00
## Pavarotti:Student-Ophelia:Adult                                    -8.666667e-01
## The Farewell:Student-Ophelia:Adult                                  2.285714e-01
## The Farewell:Adult-Pavarotti:Adult                                  6.642857e-01
## Echo In The Canyon:Member-Pavarotti:Adult                          -9.785714e+00
## Maiden:Member-Pavarotti:Adult                                      -1.028571e+01
## Ophelia:Member-Pavarotti:Adult                                     -9.785714e+00
## Pavarotti:Member-Pavarotti:Adult                                   -9.785714e+00
## The Farewell:Member-Pavarotti:Adult                                -1.028571e+01
## Echo In The Canyon:Senior Citizen-Pavarotti:Adult                   3.714286e+00
## Maiden:Senior Citizen-Pavarotti:Adult                              -9.523810e-01
## Ophelia:Senior Citizen-Pavarotti:Adult                             -5.285714e+00
## Pavarotti:Senior Citizen-Pavarotti:Adult                            3.885714e+01
## The Farewell:Senior Citizen-Pavarotti:Adult                        -4.331169e+00
## Echo In The Canyon:Student-Pavarotti:Adult                         -1.003571e+01
## Maiden:Student-Pavarotti:Adult                                     -1.028571e+01
## Ophelia:Student-Pavarotti:Adult                                    -8.285714e+00
## Pavarotti:Student-Pavarotti:Adult                                  -7.952381e+00
## The Farewell:Student-Pavarotti:Adult                               -6.857143e+00
## Echo In The Canyon:Member-The Farewell:Adult                       -1.045000e+01
## Maiden:Member-The Farewell:Adult                                   -1.095000e+01
## Ophelia:Member-The Farewell:Adult                                  -1.045000e+01
## Pavarotti:Member-The Farewell:Adult                                -1.045000e+01
## The Farewell:Member-The Farewell:Adult                             -1.095000e+01
## Echo In The Canyon:Senior Citizen-The Farewell:Adult                3.050000e+00
## Maiden:Senior Citizen-The Farewell:Adult                           -1.616667e+00
## Ophelia:Senior Citizen-The Farewell:Adult                          -5.950000e+00
## Pavarotti:Senior Citizen-The Farewell:Adult                         3.819286e+01
## The Farewell:Senior Citizen-The Farewell:Adult                     -4.995455e+00
## Echo In The Canyon:Student-The Farewell:Adult                      -1.070000e+01
## Maiden:Student-The Farewell:Adult                                  -1.095000e+01
## Ophelia:Student-The Farewell:Adult                                 -8.950000e+00
## Pavarotti:Student-The Farewell:Adult                               -8.616667e+00
## The Farewell:Student-The Farewell:Adult                            -7.521429e+00
## Maiden:Member-Echo In The Canyon:Member                            -5.000000e-01
## Ophelia:Member-Echo In The Canyon:Member                            1.154632e-14
## Pavarotti:Member-Echo In The Canyon:Member                          2.486900e-14
```

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## The Farewell:Member-Echo In The Canyon:Member                        -5.000000e-01
## Echo In The Canyon:Senior Citizen-Echo In The Canyon:Member           1.350000e+01
## Maiden:Senior Citizen-Echo In The Canyon:Member                       8.833333e+00
## Ophelia:Senior Citizen-Echo In The Canyon:Member                      4.500000e+00
## Pavarotti:Senior Citizen-Echo In The Canyon:Member                    4.864286e+01
## The Farewell:Senior Citizen-Echo In The Canyon:Member                 5.454545e+00
## Echo In The Canyon:Student-Echo In The Canyon:Member                 -2.500000e-01
## Maiden:Student-Echo In The Canyon:Member                            -5.000000e-01
## Ophelia:Student-Echo In The Canyon:Member                            1.500000e+00
## Pavarotti:Student-Echo In The Canyon:Member                          1.833333e+00
## The Farewell:Student-Echo In The Canyon:Member                       2.928571e+00
## Ophelia:Member-Maiden:Member                                         5.000000e-01
## Pavarotti:Member-Maiden:Member                                       5.000000e-01
## The Farewell:Member-Maiden:Member                                   -7.993606e-15
## Echo In The Canyon:Senior Citizen-Maiden:Member                      1.400000e+01
## Maiden:Senior Citizen-Maiden:Member                                  9.333333e+00
## Ophelia:Senior Citizen-Maiden:Member                                 5.000000e+00
## Pavarotti:Senior Citizen-Maiden:Member                               4.914286e+01
## The Farewell:Senior Citizen-Maiden:Member                            5.954545e+00
## Echo In The Canyon:Student-Maiden:Member                             2.500000e-01
## Maiden:Student-Maiden:Member                                         9.992007e-15
## Ophelia:Student-Maiden:Member                                        2.000000e+00
## Pavarotti:Student-Maiden:Member                                      2.333333e+00
## The Farewell:Student-Maiden:Member                                   3.428571e+00
## Pavarotti:Member-Ophelia:Member                                      1.332268e-14
## The Farewell:Member-Ophelia:Member                                  -5.000000e-01
## Echo In The Canyon:Senior Citizen-Ophelia:Member                     1.350000e+01
## Maiden:Senior Citizen-Ophelia:Member                                 8.833333e+00
## Ophelia:Senior Citizen-Ophelia:Member                                4.500000e+00
## Pavarotti:Senior Citizen-Ophelia:Member                              4.864286e+01
## The Farewell:Senior Citizen-Ophelia:Member                           5.454545e+00
## Echo In The Canyon:Student-Ophelia:Member                           -2.500000e-01
## Maiden:Student-Ophelia:Member                                       -5.000000e-01
## Ophelia:Student-Ophelia:Member                                       1.500000e+00
## Pavarotti:Student-Ophelia:Member                                     1.833333e+00
## The Farewell:Student-Ophelia:Member                                  2.928571e+00
## The Farewell:Member-Pavarotti:Member                                -5.000000e-01
## Echo In The Canyon:Senior Citizen-Pavarotti:Member                   1.350000e+01
## Maiden:Senior Citizen-Pavarotti:Member                               8.833333e+00
## Ophelia:Senior Citizen-Pavarotti:Member                              4.500000e+00
## Pavarotti:Senior Citizen-Pavarotti:Member                            4.864286e+01
## The Farewell:Senior Citizen-Pavarotti:Member                         5.454545e+00
## Echo In The Canyon:Student-Pavarotti:Member                         -2.500000e-01
## Maiden:Student-Pavarotti:Member                                     -5.000000e-01
## Ophelia:Student-Pavarotti:Member                                     1.500000e+00
## Pavarotti:Student-Pavarotti:Member                                   1.833333e+00
## The Farewell:Student-Pavarotti:Member                                2.928571e+00
## Echo In The Canyon:Senior Citizen-The Farewell:Member                1.400000e+01
## Maiden:Senior Citizen-The Farewell:Member                            9.333333e+00
## Ophelia:Senior Citizen-The Farewell:Member                           5.000000e+00
## Pavarotti:Senior Citizen-The Farewell:Member                         4.914286e+01
## The Farewell:Senior Citizen-The Farewell:Member                      5.954545e+00
## Echo In The Canyon:Student-The Farewell:Member                       2.500000e-01
## Maiden:Student-The Farewell:Member                                   1.798561e-14
```

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## Ophelia:Student-The Farewell:Member                              2.000000e+00
## Pavarotti:Student-The Farewell:Member                            2.333333e+00
## The Farewell:Student-The Farewell:Member                         3.428571e+00
## Maiden:Senior Citizen-Echo In The Canyon:Senior Citizen         -4.666667e+00
## Ophelia:Senior Citizen-Echo In The Canyon:Senior Citizen        -9.000000e+00
## Pavarotti:Senior Citizen-Echo In The Canyon:Senior Citizen       3.514286e+01
## The Farewell:Senior Citizen-Echo In The Canyon:Senior Citizen   -8.045455e+00
## Echo In The Canyon:Student-Echo In The Canyon:Senior Citizen    -1.375000e+01
## Maiden:Student-Echo In The Canyon:Senior Citizen                -1.400000e+01
## Ophelia:Student-Echo In The Canyon:Senior Citizen               -1.200000e+01
## Pavarotti:Student-Echo In The Canyon:Senior Citizen             -1.166667e+01
## The Farewell:Student-Echo In The Canyon:Senior Citizen          -1.057143e+01
## Ophelia:Senior Citizen-Maiden:Senior Citizen                    -4.333333e+00
## Pavarotti:Senior Citizen-Maiden:Senior Citizen                   3.980952e+01
## The Farewell:Senior Citizen-Maiden:Senior Citizen               -3.378788e+00
## Echo In The Canyon:Student-Maiden:Senior Citizen                -9.083333e+00
## Maiden:Student-Maiden:Senior Citizen                            -9.333333e+00
## Ophelia:Student-Maiden:Senior Citizen                           -7.333333e+00
## Pavarotti:Student-Maiden:Senior Citizen                         -7.000000e+00
## The Farewell:Student-Maiden:Senior Citizen                      -5.904762e+00
## Pavarotti:Senior Citizen-Ophelia:Senior Citizen                  4.414286e+01
## The Farewell:Senior Citizen-Ophelia:Senior Citizen               9.545455e-01
## Echo In The Canyon:Student-Ophelia:Senior Citizen               -4.750000e+00
## Maiden:Student-Ophelia:Senior Citizen                           -5.000000e+00
## Ophelia:Student-Ophelia:Senior Citizen                          -3.000000e+00
## Pavarotti:Student-Ophelia:Senior Citizen                        -2.666667e+00
## The Farewell:Student-Ophelia:Senior Citizen                     -1.571429e+00
## The Farewell:Senior Citizen-Pavarotti:Senior Citizen            -4.318831e+01
## Echo In The Canyon:Student-Pavarotti:Senior Citizen             -4.889286e+01
## Maiden:Student-Pavarotti:Senior Citizen                         -4.914286e+01
## Ophelia:Student-Pavarotti:Senior Citizen                        -4.714286e+01
## Pavarotti:Student-Pavarotti:Senior Citizen                      -4.680952e+01
## The Farewell:Student-Pavarotti:Senior Citizen                   -4.571429e+01
## Echo In The Canyon:Student-The Farewell:Senior Citizen          -5.704545e+00
## Maiden:Student-The Farewell:Senior Citizen                      -5.954545e+00
## Ophelia:Student-The Farewell:Senior Citizen                     -3.954545e+00
## Pavarotti:Student-The Farewell:Senior Citizen                   -3.621212e+00
## The Farewell:Student-The Farewell:Senior Citizen                -2.525974e+00
## Maiden:Student-Echo In The Canyon:Student                       -2.500000e-01
## Ophelia:Student-Echo In The Canyon:Student                       1.750000e+00
## Pavarotti:Student-Echo In The Canyon:Student                     2.083333e+00
## The Farewell:Student-Echo In The Canyon:Student                  3.178571e+00
## Ophelia:Student-Maiden:Student                                   2.000000e+00
## Pavarotti:Student-Maiden:Student                                 2.333333e+00
## The Farewell:Student-Maiden:Student                              3.428571e+00
## Pavarotti:Student-Ophelia:Student                                3.333333e-01
## The Farewell:Student-Ophelia:Student                             1.428571e+00
## The Farewell:Student-Pavarotti:Student                           1.095238e+00
##                                                                     lwr.ci
## Maiden:Adult-Echo In The Canyon:Adult                            -22.078600
## Ophelia:Adult-Echo In The Canyon:Adult                           -29.196457
## Pavarotti:Adult-Echo In The Canyon:Adult                         -19.804797
## The Farewell:Adult-Echo In The Canyon:Adult                      -14.785730
## Echo In The Canyon:Member-Echo In The Canyon:Adult               -41.573517
```

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## Maiden:Member-Echo In The Canyon:Adult                         -53.927946
## Ophelia:Member-Echo In The Canyon:Adult                        -41.573517
## Pavarotti:Member-Echo In The Canyon:Adult                      -33.752356
## The Farewell:Member-Echo In The Canyon:Adult                   -37.089035
## Echo In The Canyon:Senior Citizen-Echo In The Canyon:Adult     -15.320269
## Maiden:Senior Citizen-Echo In The Canyon:Adult                 -21.745267
## Ophelia:Senior Citizen-Echo In The Canyon:Adult                -27.396457
## Pavarotti:Senior Citizen-Echo In The Canyon:Adult               19.052345
## The Farewell:Senior Citizen-Echo In The Canyon:Adult           -19.541164
## Echo In The Canyon:Student-Echo In The Canyon:Adult            -34.002356
## Maiden:Student-Echo In The Canyon:Adult                        -42.073517
## Ophelia:Student-Echo In The Canyon:Adult                       -35.089035
## Pavarotti:Student-Echo In The Canyon:Adult                     -34.755702
## The Farewell:Student-Echo In The Canyon:Adult                  -22.181827
## Ophelia:Adult-Maiden:Adult                                     -32.377041
## Pavarotti:Adult-Maiden:Adult                                   -23.132727
## The Farewell:Adult-Maiden:Adult                                -18.479934
## Echo In The Canyon:Member-Maiden:Adult                         -44.336475
## Maiden:Member-Maiden:Adult                                     -56.407200
## Ophelia:Member-Maiden:Adult                                    -44.336475
## Pavarotti:Member-Maiden:Adult                                  -36.831221
## The Farewell:Member-Maiden:Adult                               -40.035297
## Echo In The Canyon:Senior Citizen-Maiden:Adult                 -18.703600
## Maiden:Senior Citizen-Maiden:Adult                             -25.006881
## Ophelia:Senior Citizen-Maiden:Adult                            -30.577041
## Pavarotti:Senior Citizen-Maiden:Adult                           15.724416
## The Farewell:Senior Citizen-Maiden:Adult                       -23.259952
## Echo In The Canyon:Student-Maiden:Adult                        -37.081221
## Maiden:Student-Maiden:Adult                                    -44.836475
## Ophelia:Student-Maiden:Adult                                   -38.035297
## Pavarotti:Student-Maiden:Adult                                 -37.701964
## The Farewell:Student-Maiden:Adult                              -25.888800
## Pavarotti:Adult-Ophelia:Adult                                  -18.613953
## The Farewell:Adult-Ophelia:Adult                               -14.195269
## Echo In The Canyon:Member-Ophelia:Adult                        -39.421459
## Maiden:Member-Ophelia:Adult                                    -51.279676
## Ophelia:Member-Ophelia:Adult                                   -39.421459
## Pavarotti:Member-Ophelia:Adult                                 -32.142668
## The Farewell:Member-Ophelia:Adult                              -35.253117
## Echo In The Canyon:Senior Citizen-Ophelia:Adult                -14.221457
## Maiden:Senior Citizen-Ophelia:Adult                            -20.443707
## Ophelia:Senior Citizen-Ophelia:Adult                           -25.958814
## Pavarotti:Senior Citizen-Ophelia:Adult                          20.243189
## The Farewell:Senior Citizen-Ophelia:Adult                      -18.990306
## Echo In The Canyon:Student-Ophelia:Adult                       -32.392668
## Maiden:Student-Ophelia:Adult                                   -39.921459
## Ophelia:Student-Ophelia:Adult                                  -33.253117
## Pavarotti:Student-Ophelia:Adult                                -32.919784
## The Farewell:Student-Ophelia:Adult                             -21.611946
## The Farewell:Adult-Pavarotti:Adult                             -18.610465
## Echo In The Canyon:Member-Pavarotti:Adult                      -44.976434
## Maiden:Member-Pavarotti:Adult                                  -57.206673
## Ophelia:Member-Pavarotti:Adult                                 -44.976434
## Pavarotti:Member-Pavarotti:Adult                               -37.295565
```

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## The Farewell:Member-Pavarotti:Adult                             -40.573063
## Echo In The Canyon:Senior Citizen-Pavarotti:Adult               -19.001226
## Maiden:Senior Citizen-Pavarotti:Adult                           -25.370822
## Ophelia:Senior Citizen-Pavarotti:Adult                          -30.985382
## Pavarotti:Senior Citizen-Pavarotti:Adult                         15.396663
## The Farewell:Senior Citizen-Pavarotti:Adult                     -23.377422
## Echo In The Canyon:Student-Pavarotti:Adult                      -37.545565
## Maiden:Student-Pavarotti:Adult                                  -45.476434
## Ophelia:Student-Pavarotti:Adult                                 -38.573063
## Pavarotti:Student-Pavarotti:Adult                               -38.239730
## The Farewell:Student-Pavarotti:Adult                            -26.012544
## Echo In The Canyon:Member-The Farewell:Adult                    -43.000094
## Maiden:Member-The Farewell:Adult                                -55.924419
## Ophelia:Member-The Farewell:Adult                               -43.000094
## Pavarotti:Member-The Farewell:Adult                             -34.489838
## The Farewell:Member-The Farewell:Adult                          -38.124352
## Echo In The Canyon:Senior Citizen-The Farewell:Adult            -15.310730
## Maiden:Senior Citizen-The Farewell:Adult                        -22.046600
## Ophelia:Senior Citizen-The Farewell:Adult                       -27.895269
## Pavarotti:Senior Citizen-The Farewell:Adult                      18.918106
## The Farewell:Senior Citizen-The Farewell:Adult                  -18.555752
## Echo In The Canyon:Student-The Farewell:Adult                   -34.739838
## Maiden:Student-The Farewell:Adult                               -43.500094
## Ophelia:Student-The Farewell:Adult                              -36.124352
## Pavarotti:Student-The Farewell:Adult                            -35.791019
## The Farewell:Student-The Farewell:Adult                         -21.234609
## Maiden:Member-Echo In The Canyon:Member                         -54.254712
## Ophelia:Member-Echo In The Canyon:Member                        -43.890538
## Pavarotti:Member-Echo In The Canyon:Member                      -38.010321
## The Farewell:Member-Echo In The Canyon:Member                   -40.566397
## Echo In The Canyon:Senior Citizen-Echo In The Canyon:Member     -21.198517
## Maiden:Senior Citizen-Echo In The Canyon:Member                 -27.003141
## Ophelia:Senior Citizen-Echo In The Canyon:Member                -32.221459
## Pavarotti:Senior Citizen-Echo In The Canyon:Member               13.452138
## The Farewell:Senior Citizen-Echo In The Canyon:Member           -26.960765
## Echo In The Canyon:Student-Echo In The Canyon:Member            -38.260321
## Maiden:Student-Echo In The Canyon:Member                        -44.390538
## Ophelia:Student-Echo In The Canyon:Member                       -38.566397
## Pavarotti:Student-Echo In The Canyon:Member                     -38.233063
## The Farewell:Student-Echo In The Canyon:Member                  -29.550992
## Ophelia:Member-Maiden:Member                                    -53.254712
## Pavarotti:Member-Maiden:Member                                  -48.571114
## The Farewell:Member-Maiden:Member                               -50.680428
## Echo In The Canyon:Senior Citizen-Maiden:Member                 -32.552946
## Maiden:Senior Citizen-Maiden:Member                             -38.073866
## Ophelia:Senior Citizen-Maiden:Member                            -43.079676
## Pavarotti:Senior Citizen-Maiden:Member                            2.221898
## The Farewell:Senior Citizen-Maiden:Member                       -38.922420
## Echo In The Canyon:Student-Maiden:Member                        -48.821114
## Maiden:Student-Maiden:Member                                    -53.754712
## Ophelia:Student-Maiden:Member                                   -48.680428
## Pavarotti:Student-Maiden:Member                                 -48.347095
## The Farewell:Student-Maiden:Member                              -41.494827
## Pavarotti:Member-Ophelia:Member                                 -38.010321
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## The Farewell:Member-Ophelia:Member                                   -40.566397
## Echo In The Canyon:Senior Citizen-Ophelia:Member                      -21.198517
## Maiden:Senior Citizen-Ophelia:Member                                  -27.003141
## Ophelia:Senior Citizen-Ophelia:Member                                 -32.221459
## Pavarotti:Senior Citizen-Ophelia:Member                                13.452138
## The Farewell:Senior Citizen-Ophelia:Member                            -26.960765
## Echo In The Canyon:Student-Ophelia:Member                             -38.260321
## Maiden:Student-Ophelia:Member                                         -44.390538
## Ophelia:Student-Ophelia:Member                                        -38.566397
## Pavarotti:Student-Ophelia:Member                                      -38.233063
## The Farewell:Student-Ophelia:Member                                   -29.550992
## The Farewell:Member-Pavarotti:Member                                  -34.021952
## Echo In The Canyon:Senior Citizen-Pavarotti:Member                    -13.377356
## Maiden:Senior Citizen-Pavarotti:Member                                -19.497887
## Ophelia:Senior Citizen-Pavarotti:Member                               -24.942668
## Pavarotti:Senior Citizen-Pavarotti:Member                              21.133006
## The Farewell:Senior Citizen-Pavarotti:Member                          -18.402477
## Echo In The Canyon:Student-Pavarotti:Member                           -31.285297
## Maiden:Student-Pavarotti:Member                                       -38.510321
## Ophelia:Student-Pavarotti:Member                                      -32.021952
## Pavarotti:Student-Pavarotti:Member                                    -31.688619
## The Farewell:Student-Pavarotti:Member                                 -21.015680
## Echo In The Canyon:Senior Citizen-The Farewell:Member                 -15.714035
## Maiden:Senior Citizen-The Farewell:Member                             -21.701964
## Ophelia:Senior Citizen-The Farewell:Member                            -27.053117
## Pavarotti:Senior Citizen-The Farewell:Member                           18.855508
## The Farewell:Senior Citizen-The Farewell:Member                       -21.058214
## Echo In The Canyon:Student-The Farewell:Member                        -33.271952
## Maiden:Student-The Farewell:Member                                    -40.066397
## Ophelia:Student-The Farewell:Member                                   -33.836475
## Pavarotti:Student-The Farewell:Member                                 -33.503141
## The Farewell:Student-The Farewell:Member                              -23.661257
## Maiden:Senior Citizen-Echo In The Canyon:Senior Citizen              -28.370267
## Ophelia:Senior Citizen-Echo In The Canyon:Senior Citizen             -34.021457
## Pavarotti:Senior Citizen-Echo In The Canyon:Senior Citizen            12.427345
## The Farewell:Senior Citizen-Echo In The Canyon:Senior Citizen -26.166164
## Echo In The Canyon:Student-Echo In The Canyon:Senior Citizen         -40.627356
## Maiden:Student-Echo In The Canyon:Senior Citizen                     -48.698517
## Ophelia:Student-Echo In The Canyon:Senior Citizen                    -41.714035
## Pavarotti:Student-Echo In The Canyon:Senior Citizen                  -41.380702
## The Farewell:Student-Echo In The Canyon:Senior Citizen               -28.806827
## Ophelia:Senior Citizen-Maiden:Senior Citizen                         -30.910374
## Pavarotti:Senior Citizen-Maiden:Senior Citizen                        15.391082
## The Farewell:Senior Citizen-Maiden:Senior Citizen                    -23.593286
## Echo In The Canyon:Student-Maiden:Senior Citizen                     -37.414554
## Maiden:Student-Maiden:Senior Citizen                                 -45.169808
## Ophelia:Student-Maiden:Senior Citizen                                -38.368631
## Pavarotti:Student-Maiden:Senior Citizen                              -38.035297
## The Farewell:Student-Maiden:Senior Citizen                           -26.222133
## Pavarotti:Senior Citizen-Ophelia:Senior Citizen                       18.443189
## The Farewell:Senior Citizen-Ophelia:Senior Citizen                   -20.790306
## Echo In The Canyon:Student-Ophelia:Senior Citizen                    -34.192668
## Maiden:Student-Ophelia:Senior Citizen                                -41.721459
## Ophelia:Student-Ophelia:Senior Citizen                               -35.053117
```

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## Pavarotti:Student-Ophelia:Senior Citizen                        -34.719784
## The Farewell:Student-Ophelia:Senior Citizen                     -23.411946
## The Farewell:Senior Citizen-Pavarotti:Senior Citizen            -62.234565
## Echo In The Canyon:Student-Pavarotti:Senior Citizen             -76.402708
## Maiden:Student-Pavarotti:Senior Citizen                         -84.333577
## Ophelia:Student-Pavarotti:Senior Citizen                        -77.430206
## Pavarotti:Student-Pavarotti:Senior Citizen                      -77.096873
## The Farewell:Student-Pavarotti:Senior Citizen                   -64.869687
## Echo In The Canyon:Student-The Farewell:Senior Citizen          -29.561568
## Maiden:Student-The Farewell:Senior Citizen                      -38.369856
## Ophelia:Student-The Farewell:Senior Citizen                     -30.967305
## Pavarotti:Student-The Farewell:Senior Citizen                   -30.633971
## The Farewell:Student-The Farewell:Senior Citizen                -15.916084
## Maiden:Student-Echo In The Canyon:Student                       -38.260321
## Ophelia:Student-Echo In The Canyon:Student                      -31.771952
## Pavarotti:Student-Echo In The Canyon:Student                    -31.438619
## The Farewell:Student-Echo In The Canyon:Student                 -20.765680
## Ophelia:Student-Maiden:Student                                  -38.066397
## Pavarotti:Student-Maiden:Student                                -37.733063
## The Farewell:Student-Maiden:Student                             -29.050992
## Pavarotti:Student-Ophelia:Student                               -35.503141
## The Farewell:Student-Ophelia:Student                            -25.661257
## The Farewell:Student-Pavarotti:Student                          -25.994590
##                                                                   upr.ci
## Maiden:Adult-Echo In The Canyon:Adult                            25.328600
## Ophelia:Adult-Echo In The Canyon:Adult                           20.846457
## Pavarotti:Adult-Echo In The Canyon:Adult                         25.626226
## The Farewell:Adult-Echo In The Canyon:Adult                      21.935730
## Echo In The Canyon:Member-Echo In The Canyon:Adult               27.823517
## Maiden:Member-Echo In The Canyon:Adult                           39.177946
## Ophelia:Member-Echo In The Canyon:Adult                          27.823517
## Pavarotti:Member-Echo In The Canyon:Adult                        20.002356
## The Farewell:Member-Echo In The Canyon:Adult                     22.339035
## Echo In The Canyon:Senior Citizen-Echo In The Canyon:Adult       28.570269
## Maiden:Senior Citizen-Echo In The Canyon:Adult                   25.661933
## Ophelia:Senior Citizen-Echo In The Canyon:Adult                  22.646457
## Pavarotti:Senior Citizen-Echo In The Canyon:Adult                64.483369
## The Farewell:Senior Citizen-Echo In The Canyon:Adult             16.700255
## Echo In The Canyon:Student-Echo In The Canyon:Adult              19.752356
## Maiden:Student-Echo In The Canyon:Adult                          27.323517
## Ophelia:Student-Echo In The Canyon:Adult                         24.339035
## Pavarotti:Student-Echo In The Canyon:Adult                       24.672368
## The Farewell:Student-Echo In The Canyon:Adult                    14.288970
## Ophelia:Adult-Maiden:Adult                                       20.777041
## Pavarotti:Adult-Maiden:Adult                                     25.704156
## The Farewell:Adult-Maiden:Adult                                  22.379934
## Echo In The Canyon:Member-Maiden:Adult                           27.336475
## Maiden:Member-Maiden:Adult                                       38.407200
## Ophelia:Member-Maiden:Adult                                      27.336475
## Pavarotti:Member-Maiden:Adult                                    19.831221
## The Farewell:Member-Maiden:Adult                                 22.035297
## Echo In The Canyon:Senior Citizen-Maiden:Adult                   28.703600
## Maiden:Senior Citizen-Maiden:Adult                               25.673547
## Ophelia:Senior Citizen-Maiden:Adult                              22.577041
```

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## Pavarotti:Senior Citizen-Maiden:Adult                          64.561298
## The Farewell:Senior Citizen-Maiden:Adult                       17.169043
## Echo In The Canyon:Student-Maiden:Adult                        19.581221
## Maiden:Student-Maiden:Adult                                    26.836475
## Ophelia:Student-Maiden:Adult                                   24.035297
## Pavarotti:Student-Maiden:Adult                                 24.368631
## The Farewell:Student-Maiden:Adult                              14.745943
## Pavarotti:Adult-Ophelia:Adult                                  32.785382
## The Farewell:Adult-Ophelia:Adult                               29.695269
## Echo In The Canyon:Member-Ophelia:Adult                        34.021459
## Maiden:Member-Ophelia:Adult                                    44.879676
## Ophelia:Member-Ophelia:Adult                                   34.021459
## Pavarotti:Member-Ophelia:Adult                                 26.742668
## The Farewell:Member-Ophelia:Adult                              28.853117
## Echo In The Canyon:Senior Citizen-Ophelia:Adult                35.821457
## Maiden:Senior Citizen-Ophelia:Adult                            32.710374
## Ophelia:Senior Citizen-Ophelia:Adult                           29.558814
## Pavarotti:Senior Citizen-Ophelia:Adult                         71.642525
## The Farewell:Senior Citizen-Ophelia:Adult                      24.499397
## Echo In The Canyon:Student-Ophelia:Adult                       26.492668
## Maiden:Student-Ophelia:Adult                                   33.521459
## Ophelia:Student-Ophelia:Adult                                  30.853117
## Pavarotti:Student-Ophelia:Adult                                31.186451
## The Farewell:Student-Ophelia:Adult                             22.069089
## The Farewell:Adult-Pavarotti:Adult                             19.939037
## Echo In The Canyon:Member-Pavarotti:Adult                      25.405005
## Maiden:Member-Pavarotti:Adult                                  36.635245
## Ophelia:Member-Pavarotti:Adult                                 25.405005
## Pavarotti:Member-Pavarotti:Adult                               17.724137
## The Farewell:Member-Pavarotti:Adult                            20.001635
## Echo In The Canyon:Senior Citizen-Pavarotti:Adult              26.429797
## Maiden:Senior Citizen-Pavarotti:Adult                          23.466060
## Ophelia:Senior Citizen-Pavarotti:Adult                         20.413953
## Pavarotti:Senior Citizen-Pavarotti:Adult                       62.317622
## The Farewell:Senior Citizen-Pavarotti:Adult                    14.715084
## Echo In The Canyon:Student-Pavarotti:Adult                     17.474137
## Maiden:Student-Pavarotti:Adult                                 24.905005
## Ophelia:Student-Pavarotti:Adult                                22.001635
## Pavarotti:Student-Pavarotti:Adult                              22.334968
## The Farewell:Student-Pavarotti:Adult                           12.298259
## Echo In The Canyon:Member-The Farewell:Adult                   22.100094
## Maiden:Member-The Farewell:Adult                               34.024419
## Ophelia:Member-The Farewell:Adult                              22.100094
## Pavarotti:Member-The Farewell:Adult                            13.589838
## The Farewell:Member-The Farewell:Adult                         16.224352
## Echo In The Canyon:Senior Citizen-The Farewell:Adult           21.410730
## Maiden:Senior Citizen-The Farewell:Adult                       18.813267
## Ophelia:Senior Citizen-The Farewell:Adult                      15.995269
## Pavarotti:Senior Citizen-The Farewell:Adult                    57.467608
## The Farewell:Senior Citizen-The Farewell:Adult                  8.564843
## Echo In The Canyon:Student-The Farewell:Adult                  13.339838
## Maiden:Student-The Farewell:Adult                              21.600094
## Ophelia:Student-The Farewell:Adult                             18.224352
## Pavarotti:Student-The Farewell:Adult                           18.557686
```

```
## The Farewell:Student-The Farewell:Adult                           6.191752
## Maiden:Member-Echo In The Canyon:Member                          53.254712
## Ophelia:Member-Echo In The Canyon:Member                         43.890538
## Pavarotti:Member-Echo In The Canyon:Member                       38.010321
## The Farewell:Member-Echo In The Canyon:Member                    39.566397
## Echo In The Canyon:Senior Citizen-Echo In The Canyon:Member      48.198517
## Maiden:Senior Citizen-Echo In The Canyon:Member                  44.669808
## Ophelia:Senior Citizen-Echo In The Canyon:Member                 41.221459
## Pavarotti:Senior Citizen-Echo In The Canyon:Member               83.833577
## The Farewell:Senior Citizen-Echo In The Canyon:Member            37.869856
## Echo In The Canyon:Student-Echo In The Canyon:Member             37.760321
## Maiden:Student-Echo In The Canyon:Member                         43.390538
## Ophelia:Student-Echo In The Canyon:Member                        41.566397
## Pavarotti:Student-Echo In The Canyon:Member                      41.899730
## The Farewell:Student-Echo In The Canyon:Member                   35.408135
## Ophelia:Member-Maiden:Member                                     54.254712
## Pavarotti:Member-Maiden:Member                                   49.571114
## The Farewell:Member-Maiden:Member                                50.680428
## Echo In The Canyon:Senior Citizen-Maiden:Member                  60.552946
## Maiden:Senior Citizen-Maiden:Member                              56.740533
## Ophelia:Senior Citizen-Maiden:Member                             53.079676
## Pavarotti:Senior Citizen-Maiden:Member                           96.063816
## The Farewell:Senior Citizen-Maiden:Member                        50.831511
## Echo In The Canyon:Student-Maiden:Member                         49.321114
## Maiden:Student-Maiden:Member                                     53.754712
## Ophelia:Student-Maiden:Member                                    52.680428
## Pavarotti:Student-Maiden:Member                                  53.013762
## The Farewell:Student-Maiden:Member                               48.351970
## Pavarotti:Member-Ophelia:Member                                  38.010321
## The Farewell:Member-Ophelia:Member                               39.566397
## Echo In The Canyon:Senior Citizen-Ophelia:Member                 48.198517
## Maiden:Senior Citizen-Ophelia:Member                             44.669808
## Ophelia:Senior Citizen-Ophelia:Member                            41.221459
## Pavarotti:Senior Citizen-Ophelia:Member                          83.833577
## The Farewell:Senior Citizen-Ophelia:Member                       37.869856
## Echo In The Canyon:Student-Ophelia:Member                        37.760321
## Maiden:Student-Ophelia:Member                                    43.390538
## Ophelia:Student-Ophelia:Member                                   41.566397
## Pavarotti:Student-Ophelia:Member                                 41.899730
## The Farewell:Student-Ophelia:Member                              35.408135
## The Farewell:Member-Pavarotti:Member                             33.021952
## Echo In The Canyon:Senior Citizen-Pavarotti:Member               40.377356
## Maiden:Senior Citizen-Pavarotti:Member                           37.164554
## Ophelia:Senior Citizen-Pavarotti:Member                          33.942668
## Pavarotti:Senior Citizen-Pavarotti:Member                        76.152708
## The Farewell:Senior Citizen-Pavarotti:Member                     29.311568
## Echo In The Canyon:Student-Pavarotti:Member                      30.785297
## Maiden:Student-Pavarotti:Member                                  37.510321
## Ophelia:Student-Pavarotti:Member                                 35.021952
## Pavarotti:Student-Pavarotti:Member                               35.355286
## The Farewell:Student-Pavarotti:Member                            26.872823
## Echo In The Canyon:Senior Citizen-The Farewell:Member            43.714035
## Maiden:Senior Citizen-The Farewell:Member                        40.368631
## Ophelia:Senior Citizen-The Farewell:Member                       37.053117
```

```
## Pavarotti:Senior Citizen-The Farewell:Member                         79.430206
## The Farewell:Senior Citizen-The Farewell:Member                      32.967305
## Echo In The Canyon:Student-The Farewell:Member                       33.771952
## Maiden:Student-The Farewell:Member                                   40.066397
## Ophelia:Student-The Farewell:Member                                  37.836475
## Pavarotti:Student-The Farewell:Member                                38.169808
## The Farewell:Student-The Farewell:Member                             30.518400
## Maiden:Senior Citizen-Echo In The Canyon:Senior Citizen             19.036933
## Ophelia:Senior Citizen-Echo In The Canyon:Senior Citizen            16.021457
## Pavarotti:Senior Citizen-Echo In The Canyon:Senior Citizen          57.858369
## The Farewell:Senior Citizen-Echo In The Canyon:Senior Citizen       10.075255
## Echo In The Canyon:Student-Echo In The Canyon:Senior Citizen        13.127356
## Maiden:Student-Echo In The Canyon:Senior Citizen                    20.698517
## Ophelia:Student-Echo In The Canyon:Senior Citizen                   17.714035
## Pavarotti:Student-Echo In The Canyon:Senior Citizen                 18.047368
## The Farewell:Student-Echo In The Canyon:Senior Citizen               7.663970
## Ophelia:Senior Citizen-Maiden:Senior Citizen                        22.243707
## Pavarotti:Senior Citizen-Maiden:Senior Citizen                      64.227965
## The Farewell:Senior Citizen-Maiden:Senior Citizen                   16.835710
## Echo In The Canyon:Student-Maiden:Senior Citizen                    19.247887
## Maiden:Student-Maiden:Senior Citizen                                26.503141
## Ophelia:Student-Maiden:Senior Citizen                               23.701964
## Pavarotti:Student-Maiden:Senior Citizen                             24.035297
## The Farewell:Student-Maiden:Senior Citizen                          14.412609
## Pavarotti:Senior Citizen-Ophelia:Senior Citizen                     69.842525
## The Farewell:Senior Citizen-Ophelia:Senior Citizen                  22.699397
## Echo In The Canyon:Student-Ophelia:Senior Citizen                   24.692668
## Maiden:Student-Ophelia:Senior Citizen                               31.721459
## Ophelia:Student-Ophelia:Senior Citizen                              29.053117
## Pavarotti:Student-Ophelia:Senior Citizen                            29.386451
## The Farewell:Student-Ophelia:Senior Citizen                         20.269089
## The Farewell:Senior Citizen-Pavarotti:Senior Citizen              -24.142059
## Echo In The Canyon:Student-Pavarotti:Senior Citizen               -21.383006
## Maiden:Student-Pavarotti:Senior Citizen                           -13.952138
## Ophelia:Student-Pavarotti:Senior Citizen                          -16.855508
## Pavarotti:Student-Pavarotti:Senior Citizen                        -16.522175
## The Farewell:Student-Pavarotti:Senior Citizen                     -26.558884
## Echo In The Canyon:Student-The Farewell:Senior Citizen              18.152477
## Maiden:Student-The Farewell:Senior Citizen                          26.460765
## Ophelia:Student-The Farewell:Senior Citizen                         23.058214
## Pavarotti:Student-The Farewell:Senior Citizen                       23.391547
## The Farewell:Student-The Farewell:Senior Citizen                    10.864136
## Maiden:Student-Echo In The Canyon:Student                           37.760321
## Ophelia:Student-Echo In The Canyon:Student                          35.271952
## Pavarotti:Student-Echo In The Canyon:Student                        35.605286
## The Farewell:Student-Echo In The Canyon:Student                     27.122823
## Ophelia:Student-Maiden:Student                                      42.066397
## Pavarotti:Student-Maiden:Student                                    42.399730
## The Farewell:Student-Maiden:Student                                 35.908135
## Pavarotti:Student-Ophelia:Student                                   36.169808
## The Farewell:Student-Ophelia:Student                                28.518400
## The Farewell:Student-Pavarotti:Student                              28.185067
##                                                                         pval
## Maiden:Adult-Echo In The Canyon:Adult                                 1.0000
```

```
## Ophelia:Adult-Echo In The Canyon:Adult                          1.0000
## Pavarotti:Adult-Echo In The Canyon:Adult                        1.0000
## The Farewell:Adult-Echo In The Canyon:Adult                     1.0000
## Echo In The Canyon:Member-Echo In The Canyon:Adult              1.0000
## Maiden:Member-Echo In The Canyon:Adult                          1.0000
## Ophelia:Member-Echo In The Canyon:Adult                         1.0000
## Pavarotti:Member-Echo In The Canyon:Adult                       1.0000
## The Farewell:Member-Echo In The Canyon:Adult                    1.0000
## Echo In The Canyon:Senior Citizen-Echo In The Canyon:Adult      1.0000
## Maiden:Senior Citizen-Echo In The Canyon:Adult                  1.0000
## Ophelia:Senior Citizen-Echo In The Canyon:Adult                 1.0000
## Pavarotti:Senior Citizen-Echo In The Canyon:Adult               9.3e-10 ***
## The Farewell:Senior Citizen-Echo In The Canyon:Adult            1.0000
## Echo In The Canyon:Student-Echo In The Canyon:Adult             1.0000
## Maiden:Student-Echo In The Canyon:Adult                         1.0000
## Ophelia:Student-Echo In The Canyon:Adult                        1.0000
## Pavarotti:Student-Echo In The Canyon:Adult                      1.0000
## The Farewell:Student-Echo In The Canyon:Adult                   1.0000
## Ophelia:Adult-Maiden:Adult                                      1.0000
## Pavarotti:Adult-Maiden:Adult                                    1.0000
## The Farewell:Adult-Maiden:Adult                                 1.0000
## Echo In The Canyon:Member-Maiden:Adult                          1.0000
## Maiden:Member-Maiden:Adult                                      1.0000
## Ophelia:Member-Maiden:Adult                                     1.0000
## Pavarotti:Member-Maiden:Adult                                   1.0000
## The Farewell:Member-Maiden:Adult                                1.0000
## Echo In The Canyon:Senior Citizen-Maiden:Adult                  1.0000
## Maiden:Senior Citizen-Maiden:Adult                              1.0000
## Ophelia:Senior Citizen-Maiden:Adult                             1.0000
## Pavarotti:Senior Citizen-Maiden:Adult                           1.3e-07 ***
## The Farewell:Senior Citizen-Maiden:Adult                        1.0000
## Echo In The Canyon:Student-Maiden:Adult                         1.0000
## Maiden:Student-Maiden:Adult                                     1.0000
## Ophelia:Student-Maiden:Adult                                    1.0000
## Pavarotti:Student-Maiden:Adult                                  1.0000
## The Farewell:Student-Maiden:Adult                               1.0000
## Pavarotti:Adult-Ophelia:Adult                                   1.0000
## The Farewell:Adult-Ophelia:Adult                                0.9999
## Echo In The Canyon:Member-Ophelia:Adult                         1.0000
## Maiden:Member-Ophelia:Adult                                     1.0000
## Ophelia:Member-Ophelia:Adult                                    1.0000
## Pavarotti:Member-Ophelia:Adult                                  1.0000
## The Farewell:Member-Ophelia:Adult                               1.0000
## Echo In The Canyon:Senior Citizen-Ophelia:Adult                 0.9974
## Maiden:Senior Citizen-Ophelia:Adult                             1.0000
## Ophelia:Senior Citizen-Ophelia:Adult                            1.0000
## Pavarotti:Senior Citizen-Ophelia:Adult                          3.5e-09 ***
## The Farewell:Senior Citizen-Ophelia:Adult                       1.0000
## Echo In The Canyon:Student-Ophelia:Adult                        1.0000
## Maiden:Student-Ophelia:Adult                                    1.0000
## Ophelia:Student-Ophelia:Adult                                   1.0000
## Pavarotti:Student-Ophelia:Adult                                 1.0000
## The Farewell:Student-Ophelia:Adult                              1.0000
## The Farewell:Adult-Pavarotti:Adult                              1.0000
```

```
## Echo In The Canyon:Member-Pavarotti:Adult                          1.0000
## Maiden:Member-Pavarotti:Adult                                      1.0000
## Ophelia:Member-Pavarotti:Adult                                     1.0000
## Pavarotti:Member-Pavarotti:Adult                                   0.9998
## The Farewell:Member-Pavarotti:Adult                                0.9999
## Echo In The Canyon:Senior Citizen-Pavarotti:Adult                  1.0000
## Maiden:Senior Citizen-Pavarotti:Adult                              1.0000
## Ophelia:Senior Citizen-Pavarotti:Adult                             1.0000
## Pavarotti:Senior Citizen-Pavarotti:Adult                           9.7e-08 ***
## The Farewell:Senior Citizen-Pavarotti:Adult                        1.0000
## Echo In The Canyon:Student-Pavarotti:Adult                         0.9998
## Maiden:Student-Pavarotti:Adult                                     1.0000
## Ophelia:Student-Pavarotti:Adult                                    1.0000
## Pavarotti:Student-Pavarotti:Adult                                  1.0000
## The Farewell:Student-Pavarotti:Adult                               0.9998
## Echo In The Canyon:Member-The Farewell:Adult                       1.0000
## Maiden:Member-The Farewell:Adult                                   1.0000
## Ophelia:Member-The Farewell:Adult                                  1.0000
## Pavarotti:Member-The Farewell:Adult                                0.9972
## The Farewell:Member-The Farewell:Adult                             0.9990
## Echo In The Canyon:Senior Citizen-The Farewell:Adult               1.0000
## Maiden:Senior Citizen-The Farewell:Adult                           1.0000
## Ophelia:Senior Citizen-The Farewell:Adult                          1.0000
## Pavarotti:Senior Citizen-The Farewell:Adult                        2.1e-11 ***
## The Farewell:Senior Citizen-The Farewell:Adult                     0.9997
## Echo In The Canyon:Student-The Farewell:Adult                      0.9962
## Maiden:Student-The Farewell:Adult                                  0.9999
## Ophelia:Student-The Farewell:Adult                                 0.9999
## Pavarotti:Student-The Farewell:Adult                               1.0000
## The Farewell:Student-The Farewell:Adult                            0.9565
## Maiden:Member-Echo In The Canyon:Member                            1.0000
## Ophelia:Member-Echo In The Canyon:Member                           1.0000
## Pavarotti:Member-Echo In The Canyon:Member                         1.0000
## The Farewell:Member-Echo In The Canyon:Member                      1.0000
## Echo In The Canyon:Senior Citizen-Echo In The Canyon:Member        0.9994
## Maiden:Senior Citizen-Echo In The Canyon:Member                    1.0000
## Ophelia:Senior Citizen-Echo In The Canyon:Member                   1.0000
## Pavarotti:Senior Citizen-Echo In The Canyon:Member                 5.7e-05 ***
## The Farewell:Senior Citizen-Echo In The Canyon:Member              1.0000
## Echo In The Canyon:Student-Echo In The Canyon:Member               1.0000
## Maiden:Student-Echo In The Canyon:Member                           1.0000
## Ophelia:Student-Echo In The Canyon:Member                          1.0000
## Pavarotti:Student-Echo In The Canyon:Member                        1.0000
## The Farewell:Student-Echo In The Canyon:Member                     1.0000
## Ophelia:Member-Maiden:Member                                       1.0000
## Pavarotti:Member-Maiden:Member                                     1.0000
## The Farewell:Member-Maiden:Member                                  1.0000
## Echo In The Canyon:Senior Citizen-Maiden:Member                    1.0000
## Maiden:Senior Citizen-Maiden:Member                                1.0000
## Ophelia:Senior Citizen-Maiden:Member                               1.0000
## Pavarotti:Senior Citizen-Maiden:Member                             0.0259 *
## The Farewell:Senior Citizen-Maiden:Member                          1.0000
## Echo In The Canyon:Student-Maiden:Member                           1.0000
## Maiden:Student-Maiden:Member                                       1.0000
```

```
## Ophelia:Student-Maiden:Member                                      1.0000
## Pavarotti:Student-Maiden:Member                                    1.0000
## The Farewell:Student-Maiden:Member                                 1.0000
## Pavarotti:Member-Ophelia:Member                                    1.0000
## The Farewell:Member-Ophelia:Member                                 1.0000
## Echo In The Canyon:Senior Citizen-Ophelia:Member                   0.9994
## Maiden:Senior Citizen-Ophelia:Member                               1.0000
## Ophelia:Senior Citizen-Ophelia:Member                              1.0000
## Pavarotti:Senior Citizen-Ophelia:Member                            5.7e-05 ***
## The Farewell:Senior Citizen-Ophelia:Member                         1.0000
## Echo In The Canyon:Student-Ophelia:Member                          1.0000
## Maiden:Student-Ophelia:Member                                      1.0000
## Ophelia:Student-Ophelia:Member                                     1.0000
## Pavarotti:Student-Ophelia:Member                                   1.0000
## The Farewell:Student-Ophelia:Member                                1.0000
## The Farewell:Member-Pavarotti:Member                               1.0000
## Echo In The Canyon:Senior Citizen-Pavarotti:Member                 0.9832
## Maiden:Senior Citizen-Pavarotti:Member                             1.0000
## Ophelia:Senior Citizen-Pavarotti:Member                            1.0000
## Pavarotti:Senior Citizen-Pavarotti:Member                          5.8e-09 ***
## The Farewell:Senior Citizen-Pavarotti:Member                       1.0000
## Echo In The Canyon:Student-Pavarotti:Member                        1.0000
## Maiden:Student-Pavarotti:Member                                    1.0000
## Ophelia:Student-Pavarotti:Member                                   1.0000
## Pavarotti:Student-Pavarotti:Member                                 1.0000
## The Farewell:Student-Pavarotti:Member                              1.0000
## Echo In The Canyon:Senior Citizen-The Farewell:Member              0.9922
## Maiden:Senior Citizen-The Farewell:Member                          1.0000
## Ophelia:Senior Citizen-The Farewell:Member                         1.0000
## Pavarotti:Senior Citizen-The Farewell:Member                       2.2e-07 ***
## The Farewell:Senior Citizen-The Farewell:Member                    1.0000
## Echo In The Canyon:Student-The Farewell:Member                     1.0000
## Maiden:Student-The Farewell:Member                                 1.0000
## Ophelia:Student-The Farewell:Member                                1.0000
## Pavarotti:Student-The Farewell:Member                              1.0000
## The Farewell:Student-The Farewell:Member                           1.0000
## Maiden:Senior Citizen-Echo In The Canyon:Senior Citizen            1.0000
## Ophelia:Senior Citizen-Echo In The Canyon:Senior Citizen           0.9998
## Pavarotti:Senior Citizen-Echo In The Canyon:Senior Citizen         1.4e-06 ***
## The Farewell:Senior Citizen-Echo In The Canyon:Senior Citizen      0.9963
## Echo In The Canyon:Student-Echo In The Canyon:Senior Citizen       0.9794
## Maiden:Student-Echo In The Canyon:Senior Citizen                   0.9990
## Ophelia:Student-Echo In The Canyon:Senior Citizen                  0.9990
## Pavarotti:Student-Echo In The Canyon:Senior Citizen                0.9993
## The Farewell:Student-Echo In The Canyon:Senior Citizen             0.9253
## Ophelia:Senior Citizen-Maiden:Senior Citizen                       1.0000
## Pavarotti:Senior Citizen-Maiden:Senior Citizen                     1.8e-07 ***
## The Farewell:Senior Citizen-Maiden:Senior Citizen                  1.0000
## Echo In The Canyon:Student-Maiden:Senior Citizen                   1.0000
## Maiden:Student-Maiden:Senior Citizen                               1.0000
## Ophelia:Student-Maiden:Senior Citizen                              1.0000
## Pavarotti:Student-Maiden:Senior Citizen                            1.0000
## The Farewell:Student-Maiden:Senior Citizen                         1.0000
## Pavarotti:Senior Citizen-Ophelia:Senior Citizen                    2.1e-08 ***
```

```
## The Farewell:Senior Citizen-Ophelia:Senior Citizen                    1.0000
## Echo In The Canyon:Student-Ophelia:Senior Citizen                      1.0000
## Maiden:Student-Ophelia:Senior Citizen                                  1.0000
## Ophelia:Student-Ophelia:Senior Citizen                                 1.0000
## Pavarotti:Student-Ophelia:Senior Citizen                               1.0000
## The Farewell:Student-Ophelia:Senior Citizen                            1.0000
## The Farewell:Senior Citizen-Pavarotti:Senior Citizen                   9.3e-15 ***
## Echo In The Canyon:Student-Pavarotti:Senior Citizen                    4.6e-09 ***
## Maiden:Student-Pavarotti:Senior Citizen                                4.2e-05 ***
## Ophelia:Student-Pavarotti:Senior Citizen                               1.1e-06 ***
## Pavarotti:Student-Pavarotti:Senior Citizen                             1.4e-06 ***
## The Farewell:Student-Pavarotti:Senior Citizen                          3.6e-16 ***
## Echo In The Canyon:Student-The Farewell:Senior Citizen                 1.0000
## Maiden:Student-The Farewell:Senior Citizen                             1.0000
## Ophelia:Student-The Farewell:Senior Citizen                            1.0000
## Pavarotti:Student-The Farewell:Senior Citizen                          1.0000
## The Farewell:Student-The Farewell:Senior Citizen                       1.0000
## Maiden:Student-Echo In The Canyon:Student                              1.0000
## Ophelia:Student-Echo In The Canyon:Student                             1.0000
## Pavarotti:Student-Echo In The Canyon:Student                           1.0000
## The Farewell:Student-Echo In The Canyon:Student                        1.0000
## Ophelia:Student-Maiden:Student                                         1.0000
## Pavarotti:Student-Maiden:Student                                       1.0000
## The Farewell:Student-Maiden:Student                                    1.0000
## Pavarotti:Student-Ophelia:Student                                      1.0000
## The Farewell:Student-Ophelia:Student                                   1.0000
## The Farewell:Student-Pavarotti:Student                                 1.0000
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

From the Scheffe family CIs shown in the table, "The Farewell:Student-Pavarotti:Senior Citizen" with a p-value of 3.6e-16, "The Farewell:Senior Citizen-Pavarotti:Senior Citizen" with 9.3e-15, "Pavarotti:Senior Citizen-The Farewell:Adult" with 2.1e-11, "Pavarotti:Senior Citizen-Echo In The Canyon:Adult" with 9.3e-10, "Pavarotti:Senior Citizen-Ophelia:Adult" with 3.5e-09. . .

Based on this output, by looking at the p-values, we can say that the highest quantity given the data set and background information is event "Pavarotti" with ticket type of "Senior Citizen" while the lowest quantity is event "The Farewell" with ticket type "Student".

*Further investigations are shown in the presentation.