# Art Theater Project

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```
# Main question: How does quantity change as the categories of event and ticket type change?
# Main qoal:
# Finding the most targeting group from four major consumer types(students, adults, members, senior cit
# 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")$size
## [1] 902417
ticket_sales_ <- read.csv("ticket_sales_by_showing.txt")</pre>
# Filtering data of ticket sales in Auguest 2019, the last month the theater opens
ticket_sale <- ticket_sales_[grepl("2019", ticket_sales_$EventDate) & grepl("Aug", ticket_sales_$EventD
ticket_sale \leftarrow ticket_sale[,c(-1,-3,-4,-7,-8)]
# count the occurrences of different movies and drop the movies occur below 15
table(ticket sale$EventName)
##
##
                       A Faithful Man
                                                              American Woman
##
                                                                          13
                    Echo In The Canyon
##
                                                                        Luce
                                     22
##
##
                                 Maiden
                                                                     Ophelia
##
                                     15
                                                                          15
##
                             Pavarotti
                                                                Pet Sematary
##
##
                        Sword of Trust
                                                         The Dead Don't Die
##
##
                          The Farewell The Last Black Man in San Francisco
##
##
                                            Toni Morrison: The Pieces I am
                       The Nightingale
ticket_sale_ <- ticket_sale{EventName == 'Echo In The Canyon' | ticket_sale$EventName == "M
# Set event name, ticket type, and item price as factor parameters, quantity as the respond variable
ticket_sale_$EventName <- as.factor(ticket_sale_$EventName)</pre>
is.factor(ticket_sale_$EventName)
## [1] TRUE
table(ticket_sale_$EventName)
```

```
##
## Echo In The Canyon
                      Maiden
                                                 Ophelia Pavarotti
##
                                   15
                                                                        21
                                                      15
##
        The Farewell
nlevels(ticket_sale_$EventName)
## [1] 5
ticket_sale_$TicketType <- as.factor(ticket_sale_$TicketType)</pre>
nlevels(ticket_sale_$TicketType)
## [1] 4
ticket_sale_
```

##	EventName					TicketType		Quantity
##	1441	Echo	In	The	Canyon		Adult	13
##	1443	Echo	In	The	Canyon	Senior	${\tt Citizen}$	10
##	1444	Echo	In	The	Canyon		${\tt Student}$	1
##	1445	Echo	In	The	Canyon		Adult	4
##	1447	Echo	In	The	Canyon		Member	2
##	1448	Echo	In	The	Canyon	Senior	${\tt Citizen}$	11
##	1449	Echo	In	The	Canyon		Adult	10
##	1450	Echo	In	The	Canyon	Senior	${\tt Citizen}$	29
##	1451	Echo	In	The	Canyon		${\tt Student}$	1
##	1452	Echo	In	The	Canyon		Adult	3
##	1453	Echo	In	The	Canyon	Senior	${\tt Citizen}$	8
##	1454	Echo	In	The	Canyon		Adult	13
##	1455	Echo	In	The	Canyon	Senior	${\tt Citizen}$	18
##	1459	Echo	In	The	Canyon		Member	1
##	1460	Echo	In	The	Canyon		Adult	8
##	1461	Echo	In	The	Canyon	Senior	${\tt Citizen}$	8
##	1462	Echo	In	The	Canyon Canyon		${\tt Student}$	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		${\tt Student}$	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		Citizen	10
##	3448				Maiden		Student	1
##	3450				Maiden		Adult	4
##	3452				Maiden		Member	1
##	3453				Maiden	Senior	Citizen	8
##	3455				Maiden		Adult	14
##	3456					Senior	Citizen	11
##	4367			(	Ophelia		Adult	4

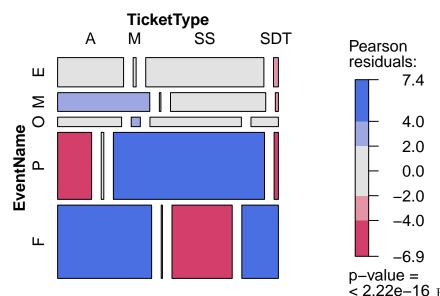
##	4368	Ophelia	Senior	${\tt Citizen}$	4
##	4369	Ophelia		Adult	3
##	4371	Ophelia	Senior	Citizen	4
##	4372	Ophelia		Adult	6
##	4373	Ophelia		Member	2
##	4374	Ophelia	Senior	Citizen	9
##	4375	Ophelia		${\tt Student}$	2
##	4377	Ophelia		Member	1
##	4378	Ophelia		Adult	4
##	4379	Ophelia	Senior	Citizen	4
##	4380	Ophelia		${\tt Student}$	6
##	4381	Ophelia		Adult	4
##	4382	Ophelia	Senior	${\tt Citizen}$	9
##	4383	Ophelia		${\tt Student}$	1
##	4486	Pavarotti		Adult	7
##	4487	Pavarotti		Member	1
##	4488	Pavarotti	Senior	${\tt Citizen}$	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		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
              The Farewell
## 5712
                                    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
## 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
              The Farewell Senior Citizen
## 5735
                                                    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
## 5762
              The Farewell
                                      Adult
                                                    4
## 5764
              The Farewell Senior Citizen
                                                    7
## 5765
              The Farewell
                                    Student
                                                    5
## 5766
              The Farewell
                                      Adult
## 5767
              The Farewell Senior Citizen
                                                    1
## 5768
              The Farewell
                                    Student
```

# 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

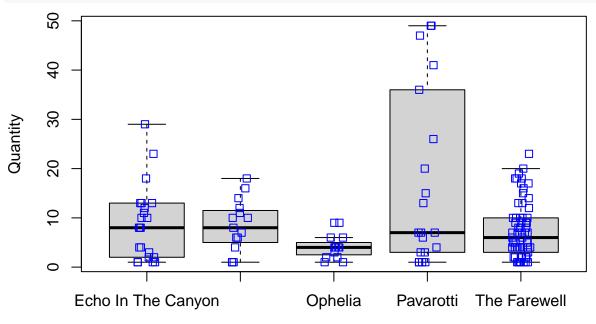
## [1] 13061

```
gross_revenue <- read.csv("gross_revenue_by_event.txt")</pre>
# Filtering data of five movies selected
gross_revenue_ <- gross_revenue [gross_revenue $Event == 'Echo In The Canyon' | gross_revenue $Event == "M
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
                               $4,322.25
# Now the data frame of gross revenue is the data represents the events that have relatively complete r
# First using mosaic plot to show the percentages of data and rough distribution of event and ticket ty
library(vcd)
## Loading required package: grid
# hard to see the full name of events in the graph, so use the first letter
ticket_sale <- ticket_sale_</pre>
ticket_sale$TicketType <- as.factor(ticket_sale$TicketType)</pre>
ticket_sale$EventName <- as.factor(ticket_sale$EventName)</pre>
levels(ticket_sale$EventName)
## [1] "Echo In The Canyon" "Maiden"
                                                   "Ophelia"
## [4] "Pavarotti"
                             "The Farewell"
levels(ticket_sale$TicketType)
## [1] "Adult"
                         "Member"
                                          "Senior Citizen" "Student"
levels(ticket_sale$EventName) <- c("E", "M", "O", "P", "F")</pre>
levels(ticket_sale$TicketType) <- c("A", "M", "SS", "SDT")</pre>
btable <- xtabs(Quantity ~ TicketType+EventName, data = ticket_sale)</pre>
btable
##
             EventName
## TicketType
                Ε
                    М
                        0
                            Ρ
                                F
               67
                   60 21 79 239
##
          Α
##
                3
                   1
                        3
                            6
          М
          SS 120 62 30 351 153
##
##
          SDT
                5
                    2
                       9 10 93
mosaic(t(btable), spacing = spacing_increase(start = 0.5, rate = 0.6), shade = TRUE)
```



```
# 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)

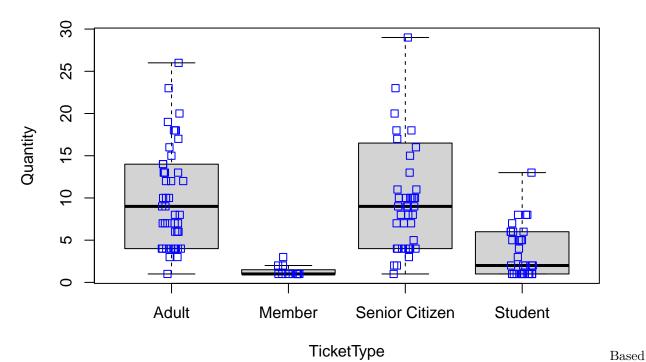


EventName

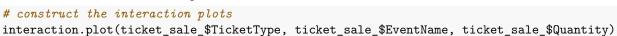
Based

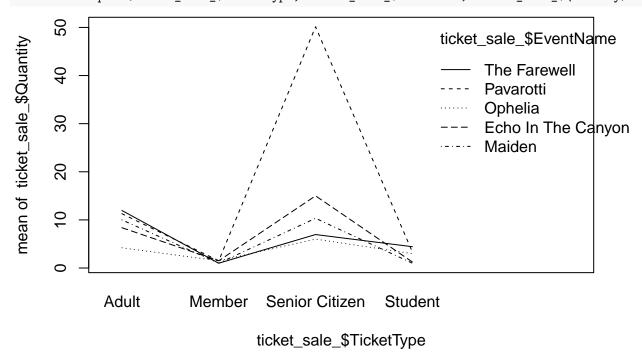
on this plot, we find that five events are at the same level except ophelia and we cannot tell whether there is a statistically difference here.

```
boxplot(Quantity~TicketType, data = ticket_sale_, outline=FALSE)
stripchart(Quantity~TicketType, data=ticket_sale_, method="jitter", col="blue", vertical=TRUE, add=TRUE
```

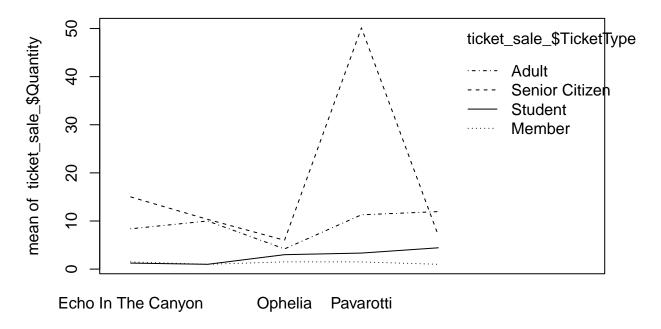


on this plot, we find that quantity at all four levels are at different level but adult and senior citizen, student and member have relatively same level. However, we cannot tell whether there is a statistically difference here since there are boxes overlap here.





interaction.plot(ticket\_sale\_\$EventName, ticket\_sale\_\$TicketType, ticket\_sale\_\$Quantity)



### ticket\_sale\_\$EventName

## EventNameThe Farewell:TicketTypeMember

## EventNameMaiden:TicketTypeSenior Citizen

```
There are intercetions in both groups
# Investigate whether the interactions are statistically significant or not
# start with the model with interactions
library(car)
## Loading required package: carData
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
           -2.955
   -30.143
                    -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
                                                                 3.2550
                                                      3.5750
                                                                           1.098
## TicketTypeMember
                                                     -6.8750
                                                                 6.1514
                                                                         -1.118
## TicketTypeSenior Citizen
                                                      6.6250
                                                                 3.8905
                                                                           1.703
## TicketTypeStudent
                                                     -7.1250
                                                                 4.7649
                                                                         -1.495
                                                                10.4151
## EventNameMaiden:TicketTypeMember
                                                     -2.1250
                                                                          -0.204
## EventNameOphelia:TicketTypeMember
                                                      4.1750
                                                                 8.9566
                                                                           0.466
## EventNamePavarotti:TicketTypeMember
                                                     -2.9107
                                                                 7.8502
                                                                         -0.371
```

-4.0750

-6.2917

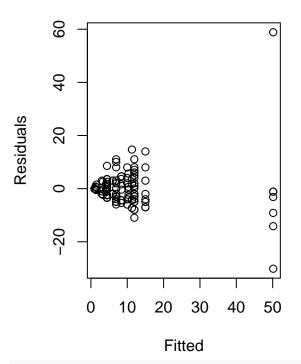
7.8134

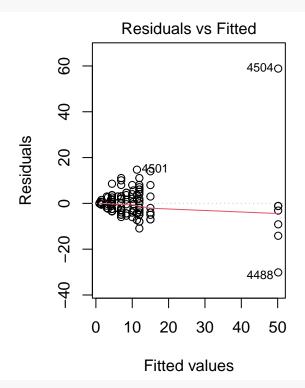
-0.522

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
                                                                7.9415 -0.236
                                                    -1.8750
## 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
                                                   0.09120
## TicketTypeSenior Citizen
## 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 '**' 0.05 '.' 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 '**' 0.05 '.' 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.
```

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





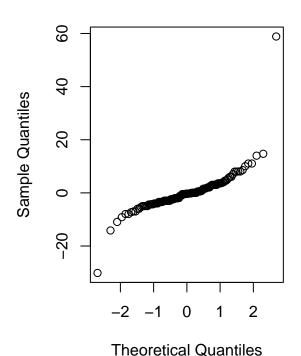
#### library(lmtest)

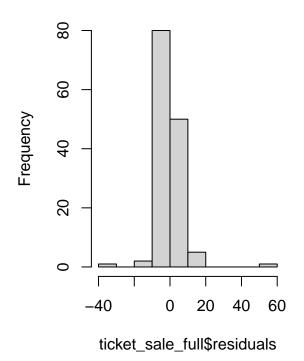
```
## Loading required package: zoo
##
## Attaching package: 'zoo'
## The following objects are masked from 'package:base':
##
## as.Date, as.Date.numeric
bptest(ticket_sale_full)
##
```

```
##
## 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





 ${\tt shapiro.test(ticket\_sale\_full\$residuals)}$ 

```
##
## 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 variance 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)
```

```
## 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
                                    -4.1333333 -20.159892 11.893225 1.0000
## Ophelia-Maiden
## 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
                          -11.065048 -25.292115 3.1620187 0.4517
## Member-Adult
## 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 Canvon: 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
                                                                  3.33333e-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
                                                                  -9.00000e+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
                                                                  -8.285714e+00
## Ophelia:Student-Pavarotti:Adult
## 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
```

```
## 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
                                                                  -5.00000e-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
                                                                   5.00000e-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
                                                                  -5.00000e-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
```

```
## 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
                                                                  -5.00000e+00
## Ophelia:Student-Ophelia:Senior Citizen
                                                                  -3.00000e+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
                                                                   3.33333e-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
```

```
## 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
```

```
## 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
                                                                  -48.571114
## Pavarotti:Member-Maiden:Member
## 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
```

```
## 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
```

```
## 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
```

```
## 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 Canvon: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
                                                                   1.0000
## Maiden:Member-Maiden:Adult
## 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
                                                                   1.0000
## The Farewell:Student-Ophelia:Adult
## 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
                                                                  1.0000
## Pavarotti:Student-Ophelia:Student
## The Farewell:Student-Ophelia:Student
                                                                  1.0000
## The Farewell:Student-Pavarotti:Student
                                                                  1.0000
##
## ---
## Signif. codes: 0 '***' 0.001 '**' 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, "Echo In The Canyon:Student-Pavarotti:Senior Citizen" with 4.6e-09, "Pavarotti:Senior Citizen-Pavarotti:Member" with 5.8e-09, "Pavarotti:Senior Citizen-Pavarotti:Adult" with 9.7e-08... to Pavarotti:Senior Citizen-Maiden:Member with 0.0259.

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", the second highest is event Maiden of ticket type "Member" while the lowest quantity is event "The Farewell" with ticket type "Student".

<sup>\*</sup>Further investigations are shown in the presentation.