> setwd("E:/Data Analytics/Internship")

> project<- read.csv(paste("Cities42.csv", sep=""))

> View(project)

> library(psych)

> library(car)

> library(lattice)

> library(corrgram)

> library(corrplot)

> library(Hmisc)

Loading required package: survival

Loading required package: Formula

Loading required package: ggplot2

Attaching package: ‘ggplot2’

The following objects are masked from ‘package:psych’:

%+%, alpha

Attaching package: ‘Hmisc’

The following object is masked from ‘package:psych’:

describe

The following objects are masked from ‘package:base’:

format.pval, round.POSIXt, trunc.POSIXt, units

> attach(project)#allows to use vector name without specifying data frame

The following objects are masked from project (pos = 7):

Airport, CityName, CityRank, Date, FreeBreakfast, FreeWifi, HasSwimmingPool,

HotelAddress, HotelCapacity, HotelDescription, HotelName, HotelPincode,

IsMetroCity, IsNewYearEve, IsTouristDestination, IsWeekend, Population,

RoomRent, StarRating

> summary(project)

CityName Population CityRank IsMetroCity

Delhi :2048 Min. : 8096 Min. : 0.00 Min. :0.0000

Jaipur : 768 1st Qu.: 744983 1st Qu.: 2.00 1st Qu.:0.0000

Mumbai : 712 Median : 3046163 Median : 9.00 Median :0.0000

Bangalore: 656 Mean : 4416837 Mean :14.83 Mean :0.2842

Goa : 624 3rd Qu.: 8443675 3rd Qu.:24.00 3rd Qu.:1.0000

Kochi : 608 Max. :12442373 Max. :44.00 Max. :1.0000

(Other) :7816

IsTouristDestination IsWeekend IsNewYearEve Date

Min. :0.0000 Min. :0.0000 Min. :0.0000 Dec 21 2016:1611

1st Qu.:0.0000 1st Qu.:0.0000 1st Qu.:0.0000 Dec 24 2016:1611

Median :1.0000 Median :1.0000 Median :0.0000 Dec 25 2016:1611

Mean :0.6972 Mean :0.6228 Mean :0.1244 Dec 28 2016:1611

3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.:0.0000 Dec 31 2016:1611

Max. :1.0000 Max. :1.0000 Max. :1.0000 Dec 18 2016:1608

(Other) :3569

HotelName RoomRent StarRating Airport

Vivanta by Taj : 32 Min. : 299 Min. :0.000 Min. : 0.20

Goldfinch Hotel : 24 1st Qu.: 2436 1st Qu.:3.000 1st Qu.: 8.40

OYO Rooms : 24 Median : 4000 Median :3.000 Median : 15.00

The Gordon House Hotel: 24 Mean : 5474 Mean :3.459 Mean : 21.16

Apnayt Villa : 16 3rd Qu.: 6299 3rd Qu.:4.000 3rd Qu.: 24.00

Bentleys Hotel Colaba : 16 Max. :322500 Max. :5.000 Max. :124.00

(Other) :13096

HotelAddress

The Mall, Shimla : 32

#2-91/14/8, White Fields, Kondapur, Hitech City, Hyderabad, 500084 India: 16

121, City Terrace, Walchand Hirachand Marg, Mumbai, Maharashtra : 16

14-4507/9, Balmatta Road, Near Jyothi Circle, Hampankatta : 16

144/7, Rajiv Gandi Salai (OMR), Kottivakkam, Chennai, Tamil Nadu : 16

17, Oliver Road, Colaba, Mumbai, Maharashtra : 16

(Other) :13120

HotelPincode HotelDescription FreeWifi FreeBreakfast

Min. : 100025 3 : 120 Min. :0.0000 Min. :0.0000

1st Qu.: 221001 Abc : 112 1st Qu.:1.0000 1st Qu.:0.0000

Median : 395003 3-star hotel: 104 Median :1.0000 Median :1.0000

Mean : 397430 3.5 : 88 Mean :0.9259 Mean :0.6491

3rd Qu.: 570001 4 : 72 3rd Qu.:1.0000 3rd Qu.:1.0000

Max. :7000157 (Other) :12728 Max. :1.0000 Max. :1.0000

NA's : 8

HotelCapacity HasSwimmingPool

Min. : 0.00 Min. :0.0000

1st Qu.: 16.00 1st Qu.:0.0000

Median : 34.00 Median :0.0000

Mean : 62.51 Mean :0.3558

3rd Qu.: 75.00 3rd Qu.:1.0000

Max. :600.00 Max. :1.0000

> describe(project)[,c(2,3,4,5,8,9)]

project

19 Variables 13232 Observations

------------------------------------------------------------------------------------------

CityName

n missing distinct

13232 0 42

lowest : Agra Ahmedabad Amritsar Bangalore Bhubaneswar

highest: Surat Thiruvanthipuram Thrissur Udaipur Varanasi

------------------------------------------------------------------------------------------

Population

n missing distinct Info Mean Gmd .05 .10 .25 .50

13232 0 44 0.995 4416837 4656851 41377 102138 744983 3046163

.75 .90 .95

8443675 11034555 12442373

lowest : 8096 38471 38472 38473 41377

highest: 6731790 7088416 8443675 11034555 12442373

------------------------------------------------------------------------------------------

CityRank

n missing distinct Info Mean Gmd .05 .10 .25 .50

13232 0 42 0.995 14.83 15.01 0 1 2 9

.75 .90 .95

24 37 42

lowest : 0 1 2 3 4, highest: 39 40 42 43 44

------------------------------------------------------------------------------------------

IsMetroCity

n missing distinct Info Sum Mean Gmd

13232 0 2 0.61 3760 0.2842 0.4069

------------------------------------------------------------------------------------------

IsTouristDestination

n missing distinct Info Sum Mean Gmd

13232 0 2 0.633 9225 0.6972 0.4223

------------------------------------------------------------------------------------------

IsWeekend

n missing distinct Info Sum Mean Gmd

13232 0 2 0.705 8241 0.6228 0.4699

------------------------------------------------------------------------------------------

IsNewYearEve

n missing distinct Info Sum Mean Gmd

13232 0 2 0.327 1646 0.1244 0.2179

------------------------------------------------------------------------------------------

Date

n missing distinct

13232 0 20

04-Jan-16 (31, 0.002), 04-Jan-17 (13, 0.001), 08-Jan-16 (31, 0.002), 08-Jan-17 (13,

0.001), 18-Dec-16 (44, 0.003), 21-Dec-16 (44, 0.003), 24-Dec-16 (44, 0.003), 25-Dec-16

(44, 0.003), 28-Dec-16 (44, 0.003), 31-Dec-16 (44, 0.003), Dec 18 2016 (1608, 0.122), Dec

21 2016 (1611, 0.122), Dec 24 2016 (1611, 0.122), Dec 25 2016 (1611, 0.122), Dec 28 2016

(1611, 0.122), Dec 31 2016 (1611, 0.122), Jan 04 2017 (1548, 0.117), Jan 08 2017 (1542,

0.117), Jan 4 2017 (60, 0.005), Jan 8 2017 (67, 0.005)

------------------------------------------------------------------------------------------

HotelName

n missing distinct

13232 0 1670

lowest : 14 Square Amanora 14 Square Serviced Apartments Magarpatta 1st Gate Home- Fusion 36 PALMS BOUTIQUE RETREAT 37 PALMS BOUTIQUE RETREAT

highest: Zingo Hotel MG Road Zip by Spree Hotel Bluestone Zip by Spree Hotels at Woodrose Club Zone by The Park Bani Park Jaipur Zone by the Park ORR Chennai

------------------------------------------------------------------------------------------

RoomRent

n missing distinct Info Mean Gmd .05 .10 .25 .50

13232 0 2156 1 5474 4612 1422 1702 2436 4000

.75 .90 .95

6299 9500 13391

Value 0 5000 10000 15000 20000 25000 30000 35000 40000 45000 50000

Frequency 3590 7294 1635 313 172 71 34 23 21 13 28

Proportion 0.271 0.551 0.124 0.024 0.013 0.005 0.003 0.002 0.002 0.001 0.002

Value 55000 65000 70000 75000 140000 160000 320000

Frequency 13 6 5 9 1 2 2

Proportion 0.001 0.000 0.000 0.001 0.000 0.000 0.000

------------------------------------------------------------------------------------------

StarRating

n missing distinct Info Mean Gmd .05 .10 .25 .50

13232 0 21 0.899 3.459 0.8008 2.5 3.0 3.0 3.0

.75 .90 .95

4.0 5.0 5.0

lowest : 0.0 1.0 2.0 2.5 3.0, highest: 4.4 4.5 4.7 4.8 5.0

------------------------------------------------------------------------------------------

Airport

n missing distinct Info Mean Gmd .05 .10 .25 .50

13232 0 271 1 21.16 19.88 2.5 4.0 8.4 15.0

.75 .90 .95

24.0 40.0 65.0

lowest : 0.2 0.3 0.4 0.5 0.6, highest: 102.4 105.0 110.0 117.4 124.0

------------------------------------------------------------------------------------------

HotelAddress

n missing distinct

13232 0 2108

lowest : H.P. High Court Mall Road, Shimla Kali Bari Temple, Shimla # 211, S.C. Road,Seshadripuram,Bengaluru,Karnataka,India # 253/6&7, Vasanthapura Main Road, Off Kanakapura Main Road #1, 14th Cross, South-End Circle, 2nd block, Jayanagar, Bengaluru

highest: Ximer Arpora Bardez, Arpora, Goa, 403518, India Ximer, Candolim, Goa Xion Complex, Wakad Road, Pune, Hinjawadi, Maharashtra, 411057 India Zero Garjia Dhikuli, Dhikuli, Uttarakhand, Zoo Road, Tallital, Nainital

------------------------------------------------------------------------------------------

HotelPincode

n missing distinct Info Mean Gmd .05 .10 .25 .50

13232 0 551 1 397430 239772 110037 122001 221001 395003

.75 .90 .95

570001 695011 700091

Value 100000 150000 200000 250000 300000 350000 400000 450000 500000

Frequency 1928 824 728 408 1664 592 2416 168 536

Proportion 0.146 0.062 0.055 0.031 0.126 0.045 0.183 0.013 0.041

Value 550000 600000 650000 700000 750000 800000 7000000

Frequency 816 520 248 1864 464 48 8

Proportion 0.062 0.039 0.019 0.141 0.035 0.004 0.001

------------------------------------------------------------------------------------------

HotelDescription

n missing distinct

13224 8 1226

lowest : #NAME? 10 star hotel near Queensroad, Amritsar 13 star hotel with restaurant 17, Oliver Road, Colaba, Mumbai, Maharashtra 2.5-star hotel

highest: Waterfront resort with spa, near Candolim Beach West Delhi hotel next to shopping Within easy reach of ISKCON Temple Within easy reach of Palolem Beach Zirakpur hotel next to shopping

------------------------------------------------------------------------------------------

FreeWifi

n missing distinct Info Sum Mean Gmd

13232 0 2 0.206 12251 0.9259 0.1373

------------------------------------------------------------------------------------------

FreeBreakfast

n missing distinct Info Sum Mean Gmd

13232 0 2 0.683 8589 0.6491 0.4556

------------------------------------------------------------------------------------------

HotelCapacity

n missing distinct Info Mean Gmd .05 .10 .25 .50

13232 0 254 0.997 62.51 66.94 10 12 16 34

.75 .90 .95

75 150 212

lowest : 0 1 2 3 4, highest: 507 523 550 560 600

------------------------------------------------------------------------------------------

HasSwimmingPool

n missing distinct Info Sum Mean Gmd

13232 0 2 0.688 4708 0.3558 0.4584

------------------------------------------------------------------------------------------

> str(project)

'data.frame': 13232 obs. of 19 variables:

$ CityName : Factor w/ 42 levels "Agra","Ahmedabad",..: 26 26 26 26 26 26 26 26 26 26 ...

$ Population : int 12442373 12442373 12442373 12442373 12442373 12442373 12442373 12442373 12442373 12442373 ...

$ CityRank : int 0 0 0 0 0 0 0 0 0 0 ...

$ IsMetroCity : int 1 1 1 1 1 1 1 1 1 1 ...

$ IsTouristDestination: int 1 1 1 1 1 1 1 1 1 1 ...

$ IsWeekend : int 1 0 1 1 0 1 0 1 1 0 ...

$ IsNewYearEve : int 0 0 0 0 0 1 0 0 0 0 ...

$ Date : Factor w/ 20 levels "04-Jan-16","04-Jan-17",..: 11 12 13 14 15 16 17 18 11 12 ...

$ HotelName : Factor w/ 1670 levels "14 Square Amanora",..: 1635 1635 1635 1635 1635 1635 1635 1635 1409 1409 ...

$ RoomRent : int 12375 10250 9900 10350 12000 11475 11220 9225 6800 9350 ...

$ StarRating : num 5 5 5 5 5 5 5 5 4 4 ...

$ Airport : num 21 21 21 21 21 21 21 21 20 20 ...

$ HotelAddress : Factor w/ 2108 levels " H.P. High Court Mall Road, Shimla",..: 925 928 930 933 935 937 940 941 699 746 ...

$ HotelPincode : int 400005 400006 400007 400008 400009 400010 400011 400012 400039 400040 ...

$ HotelDescription : Factor w/ 1226 levels "#NAME?","10 star hotel near Queensroad, Amritsar",..: 1030 1030 1030 1030 1030 1030 1030 1030 1006 1006 ...

$ FreeWifi : int 1 1 1 1 1 1 1 1 1 1 ...

$ FreeBreakfast : int 0 0 0 0 0 0 0 0 1 1 ...

$ HotelCapacity : int 287 287 287 287 287 287 287 287 28 28 ...

$ HasSwimmingPool : int 1 1 1 1 1 1 1 1 0 0 ...

> by(project$RoomRent, project$CityRank, mean)

project$CityRank: 0

[1] 6343.73

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 1

[1] 4318.606

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 2

[1] 4112.803

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 3

[1] 4323.647

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 4

[1] 3852.175

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 5

[1] 4175.045

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 6

[1] 4528.986

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 7

[1] 3660.85

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 8

[1] 3897.652

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 9

[1] 7292.022

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 10

[1] 3387.844

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 11

[1] 5879.07

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 12

[1] 3008.562

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 13

[1] 3444.029

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 14

[1] 3414.594

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 16

[1] 4124.287

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 17

[1] 5342.444

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 18

[1] 8170.801

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 19

[1] 4107.078

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 20

[1] 8675.042

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 21

[1] 10572.02

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 22

[1] 10661.37

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 23

[1] 4030.94

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 24

[1] 6726.796

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 25

[1] 5325.812

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 26

[1] 3320.869

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 27

[1] 3587.442

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 28

[1] 6664.368

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 29

[1] 4110.337

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 30

[1] 10145.25

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 32

[1] 3919.938

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 33

[1] 5708.429

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 34

[1] 5780.604

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 35

[1] 2813.5

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 36

[1] 5458.088

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 37

[1] 4943.67

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 38

[1] 4629.648

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 39

[1] 6144.257

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 40

[1] 5986.072

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 42

[1] 6409.833

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 43

[1] 7543.5

---------------------------------------------------------------------------------------------------------------------------------------------

project$CityRank: 44

[1] 4858.285

> meanrent<-aggregate(RoomRent, by=list(StarRating = StarRating), mean)

> meanrent

StarRating x

1 0.0 7237.125

2 1.0 686.625

3 2.0 2783.166

4 2.5 2520.816

5 3.0 3694.811

6 3.2 15937.500

7 3.3 2841.062

8 3.4 23437.500

9 3.5 4843.346

10 3.6 7769.500

11 3.7 6701.958

12 3.8 5400.062

13 3.9 13062.750

14 4.0 6393.105

15 4.1 19075.000

16 4.3 7423.125

17 4.4 5563.500

18 4.5 8699.920

19 4.7 10125.000

20 4.8 46752.812

21 5.0 12398.221

> hotel1 <- xtabs(~ StarRating+IsTouristDestination, data=project)

> hotel1

IsTouristDestination

StarRating 0 1

0 0 16

1 0 8

2 64 376

2.5 152 480

3 1888 4065

3.2 0 8

3.3 0 16

3.4 0 8

3.5 448 1304

3.6 0 8

3.7 8 16

3.8 16 0

3.9 16 16

4 839 1624

4.1 0 24

4.3 16 0

4.4 8 0

4.5 128 248

4.7 8 0

4.8 0 16

5 416 992

> ftable(hotel1)

IsTouristDestination 0 1

StarRating

0 0 16

1 0 8

2 64 376

2.5 152 480

3 1888 4065

3.2 0 8

3.3 0 16

3.4 0 8

3.5 448 1304

3.6 0 8

3.7 8 16

3.8 16 0

3.9 16 16

4 839 1624

4.1 0 24

4.3 16 0

4.4 8 0

4.5 128 248

4.7 8 0

4.8 0 16

5 416 992

> tdhotel<- project[ which(project$IsTouristDestination==1) , ]

> View(tdhotel)

> tdhotel<- project[ which(project$IsTouristDestination==1) , ]

> View(tdhotel)

> maxRent<-subset(project,RoomRent==max(project$RoomRent))

> maxRent

CityName Population CityRank IsMetroCity IsTouristDestination IsWeekend IsNewYearEve

6533 Jaipur 3046163 9 0 1 1 0

6534 Jaipur 3046163 9 0 1 0 0

Date HotelName RoomRent StarRating Airport HotelAddress

6533 Dec 18 2016 Rambagh Palace 322500 5 7.7 Bhawani Singh Road, Jaipur

6534 Dec 21 2016 Rambagh Palace 322500 5 7.7 Bhawani Singh Road, Jaipur

HotelPincode HotelDescription FreeWifi

6533 302005 Luxury hotel in C-Scheme with 3 restaurants, 2 bars/lounges 1

6534 302005 Luxury hotel in C-Scheme with 3 restaurants, 2 bars/lounges 1

FreeBreakfast HotelCapacity HasSwimmingPool

6533 0 79 1

6534 0 79 1

> hotelpricing <- c("RoomRent","HasSwimmingPool","CityRank","IsMetroCity","StarRating","Airport","HotelCapacity","FreeWifi","FreeBreakfast","IsWeekend","IsTouristDestination","IsNewYearEve","Population")

> corMatrix <- rcorr(as.matrix(project[,hotelpricing]))

> corMatrix

RoomRent HasSwimmingPool CityRank IsMetroCity StarRating Airport HotelCapacity FreeWifi FreeBreakfast IsWeekend IsTouristDestination IsNewYearEve

RoomRent 1.00 0.31 0.09 -0.07 0.37 0.05 0.16 0.00 -0.01 0.00 0.12 0.04

HasSwimmingPool 0.31 1.00 -0.10 0.02 0.62 -0.14 0.51 -0.02 -0.06 0.00 0.04 0.00

CityRank 0.09 -0.10 1.00 -0.56 -0.13 0.51 -0.26 -0.12 -0.01 -0.01 0.28 0.00

IsMetroCity -0.07 0.02 -0.56 1.00 0.08 -0.21 0.19 0.09 0.05 0.00 0.18 0.00

StarRating 0.37 0.62 -0.13 0.08 1.00 -0.06 0.64 0.02 -0.03 0.01 -0.04 0.00

Airport 0.05 -0.14 0.51 -0.21 -0.06 1.00 -0.12 -0.09 0.02 0.00 0.19 0.00

HotelCapacity 0.16 0.51 -0.26 0.19 0.64 -0.12 1.00 -0.01 -0.09 0.01 -0.09 0.00

FreeWifi 0.00 -0.02 -0.12 0.09 0.02 -0.09 -0.01 1.00 0.16 0.00 -0.06 0.00

FreeBreakfast -0.01 -0.06 -0.01 0.05 -0.03 0.02 -0.09 0.16 1.00 -0.01 -0.07 0.00

IsWeekend 0.00 0.00 -0.01 0.00 0.01 0.00 0.01 0.00 -0.01 1.00 -0.02 0.29

IsTouristDestination 0.12 0.04 0.28 0.18 -0.04 0.19 -0.09 -0.06 -0.07 -0.02 1.00 0.00

IsNewYearEve 0.04 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.29 0.00 1.00

Population -0.09 0.03 -0.84 0.77 0.13 -0.26 0.26 0.11 0.04 0.01 -0.05 0.00

Population

RoomRent -0.09

HasSwimmingPool 0.03

CityRank -0.84

IsMetroCity 0.77

StarRating 0.13

Airport -0.26

HotelCapacity 0.26

FreeWifi 0.11

FreeBreakfast 0.04

IsWeekend 0.01

IsTouristDestination -0.05

IsNewYearEve 0.00

Population 1.00

n= 13232

P

RoomRent HasSwimmingPool CityRank IsMetroCity StarRating Airport HotelCapacity FreeWifi FreeBreakfast IsWeekend IsTouristDestination IsNewYearEve

RoomRent 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.6765 0.2497 0.5983 0.0000 0.0000

HasSwimmingPool 0.0000 0.0000 0.0138 0.0000 0.0000 0.0000 0.0056 0.0000 0.6047 0.0000 0.8973

CityRank 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.3179 0.4039 0.0000 0.9420

IsMetroCity 0.0000 0.0138 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.8349 0.0000 0.9407

StarRating 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0383 0.0002 0.4632 0.0000 0.7860

Airport 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0052 0.7540 0.0000 0.9578

HotelCapacity 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.3168 0.0000 0.4682 0.0000 0.8764

FreeWifi 0.6765 0.0056 0.0000 0.0000 0.0383 0.0000 0.3168 0.0000 0.7334 0.0000 0.9974

FreeBreakfast 0.2497 0.0000 0.3179 0.0000 0.0002 0.0052 0.0000 0.0000 0.3812 0.0000 0.7643

IsWeekend 0.5983 0.6047 0.4039 0.8349 0.4632 0.7540 0.4682 0.7334 0.3812 0.0250 0.0000

IsTouristDestination 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0250 0.7943

IsNewYearEve 0.0000 0.8973 0.9420 0.9407 0.7860 0.9578 0.8764 0.9974 0.7643 0.0000 0.7943

Population 0.0000 0.0025 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.1824 0.0000 0.9328

Population

RoomRent 0.0000

HasSwimmingPool 0.0025

CityRank 0.0000

IsMetroCity 0.0000

StarRating 0.0000

Airport 0.0000

HotelCapacity 0.0000

FreeWifi 0.0000

FreeBreakfast 0.0000

IsWeekend 0.1824

IsTouristDestination 0.0000

IsNewYearEve 0.9328

Population

> hotelpricing1 <- c("RoomRent","HasSwimmingPool","CityRank","IsMetroCity","StarRating","Airport","HotelCapacity","FreeWifi","FreeBreakfast","IsWeekend","IsTouristDestination","IsNewYearEve","Population")

> corMatrix1 <- rcorr(as.matrix(tdhotel[,hotelpricing1]))

> corMatrix1

RoomRent HasSwimmingPool CityRank IsMetroCity StarRating Airport HotelCapacity FreeWifi FreeBreakfast IsWeekend IsTouristDestination IsNewYearEve

RoomRent 1.00 0.31 0.07 -0.11 0.38 0.03 0.15 0.02 0.02 0.01 NaN 0.05

HasSwimmingPool 0.31 1.00 -0.12 -0.04 0.59 -0.19 0.46 0.00 0.00 0.01 NaN 0.00

CityRank 0.07 -0.12 1.00 -0.73 -0.13 0.57 -0.25 -0.12 0.04 0.00 NaN 0.00

IsMetroCity -0.11 -0.04 -0.73 1.00 0.09 -0.28 0.23 0.12 0.05 0.02 NaN 0.00

StarRating 0.38 0.59 -0.13 0.09 1.00 -0.08 0.59 0.05 0.03 0.00 NaN 0.00

Airport 0.03 -0.19 0.57 -0.28 -0.08 1.00 -0.14 -0.10 0.06 0.00 NaN 0.00

HotelCapacity 0.15 0.46 -0.25 0.23 0.59 -0.14 1.00 0.01 -0.03 0.00 NaN 0.00

FreeWifi 0.02 0.00 -0.12 0.12 0.05 -0.10 0.01 1.00 0.14 0.00 NaN 0.00

FreeBreakfast 0.02 0.00 0.04 0.05 0.03 0.06 -0.03 0.14 1.00 0.00 NaN 0.00

IsWeekend 0.01 0.01 0.00 0.02 0.00 0.00 0.00 0.00 0.00 1.00 NaN 0.30

IsTouristDestination NaN NaN NaN NaN NaN NaN NaN NaN NaN NaN 1 NaN

IsNewYearEve 0.05 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.30 NaN 1.00

Population -0.09 0.01 -0.85 0.92 0.13 -0.34 0.27 0.12 0.03 0.02 NaN 0.00

Population

RoomRent -0.09

HasSwimmingPool 0.01

CityRank -0.85

IsMetroCity 0.92

StarRating 0.13

Airport -0.34

HotelCapacity 0.27

FreeWifi 0.12

FreeBreakfast 0.03

IsWeekend 0.02

IsTouristDestination NaN

IsNewYearEve 0.00

Population 1.00

n= 9225

P

RoomRent HasSwimmingPool CityRank IsMetroCity StarRating Airport HotelCapacity FreeWifi FreeBreakfast IsWeekend IsTouristDestination IsNewYearEve

RoomRent 0.0000 0.0000 0.0000 0.0000 0.0054 0.0000 0.0455 0.1466 0.4615 0.0000

HasSwimmingPool 0.0000 0.0000 0.0002 0.0000 0.0000 0.0000 0.6781 0.6740 0.5192 0.8385

CityRank 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.7591 0.9892

IsMetroCity 0.0000 0.0002 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.1180 0.8787

StarRating 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0018 0.7693 0.8394

Airport 0.0054 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.9420 0.9097

HotelCapacity 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.3524 0.0011 0.6638 0.8859

FreeWifi 0.0455 0.6781 0.0000 0.0000 0.0000 0.0000 0.3524 0.0000 0.9896 0.9000

FreeBreakfast 0.1466 0.6740 0.0000 0.0000 0.0018 0.0000 0.0011 0.0000 0.7278 0.7363

IsWeekend 0.4615 0.5192 0.7591 0.1180 0.7693 0.9420 0.6638 0.9896 0.7278 0.0000

IsTouristDestination

IsNewYearEve 0.0000 0.8385 0.9892 0.8787 0.8394 0.9097 0.8859 0.9000 0.7363 0.0000

Population 0.0000 0.4316 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0031 0.1329 0.8945

Population

RoomRent 0.0000

HasSwimmingPool 0.4316

CityRank 0.0000

IsMetroCity 0.0000

StarRating 0.0000

Airport 0.0000

HotelCapacity 0.0000

FreeWifi 0.0000

FreeBreakfast 0.0031

IsWeekend 0.1329

IsTouristDestination

IsNewYearEve 0.8945

Population

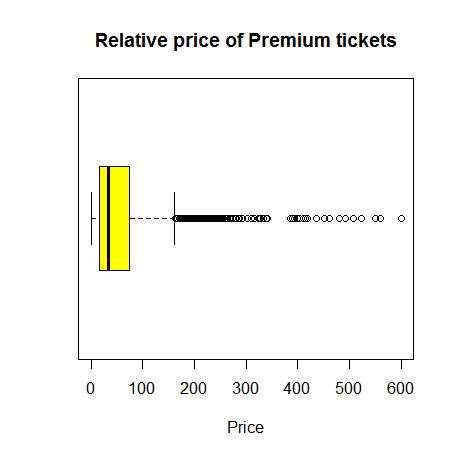
> boxplot(HotelCapacity,

+ main="Relative price of Premium tickets",

+ horizontal=TRUE,

+ col=c("yellow"),

+ xlab="Price" )



> table(StarRating)

StarRating

0 1 2 2.5 3 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9

16 8 440 632 5953 8 16 8 1752 8 24 16 32

4 4.1 4.3 4.4 4.5 4.7 4.8 5

2463 24 16 8 376 8 16 1408

> table(HasSwimmingPool)

HasSwimmingPool

0 1

8524 4708

> hotel2 <- xtabs(~ StarRating+HasSwimmingPool, data=project)

> addmargins(hotel2)

HasSwimmingPool

StarRating 0 1 Sum

0 8 8 16

1 8 0 8

2 392 48 440

2.5 616 16 632

3 5236 717 5953

3.2 0 8 8

3.3 16 0 16

3.4 0 8 8

3.5 1272 480 1752

3.6 0 8 8

3.7 0 24 24

3.8 8 8 16

3.9 8 24 32

4 848 1615 2463

4.1 8 16 24

4.3 0 16 16

4.4 8 0 8

4.5 48 328 376

4.7 0 8 8

4.8 0 16 16

5 48 1360 1408

Sum 8524 4708 13232

> ftable(hotel2)

HasSwimmingPool 0 1

StarRating

0 8 8

1 8 0

2 392 48

2.5 616 16

3 5236 717

3.2 0 8

3.3 16 0

3.4 0 8

3.5 1272 480

3.6 0 8

3.7 0 24

3.8 8 8

3.9 8 24

4 848 1615

4.1 8 16

4.3 0 16

4.4 8 0

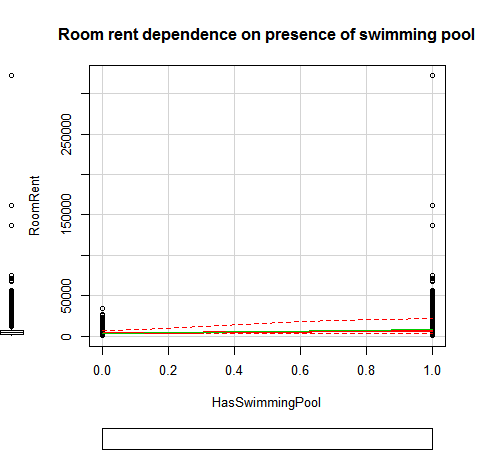
4.5 48 328

4.7 0 8

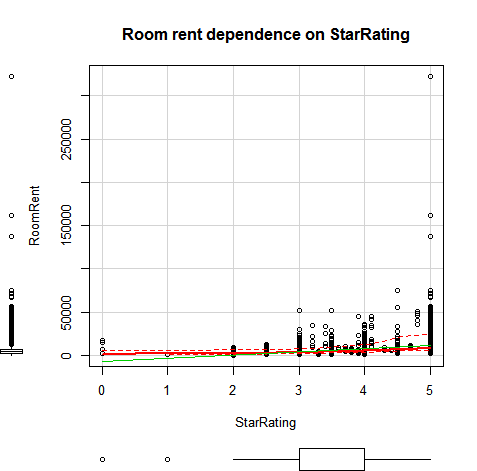
4.8 0 16

5 48 1360

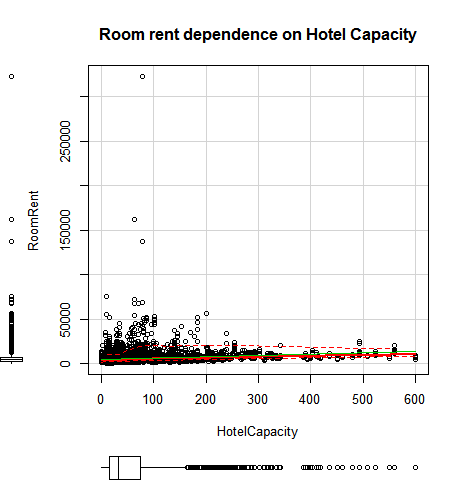
> scatterplot(HasSwimmingPool,RoomRent , main="Room rent dependence on presence of swimming pool", xlab="HasSwimmingPool", ylab="RoomRent")



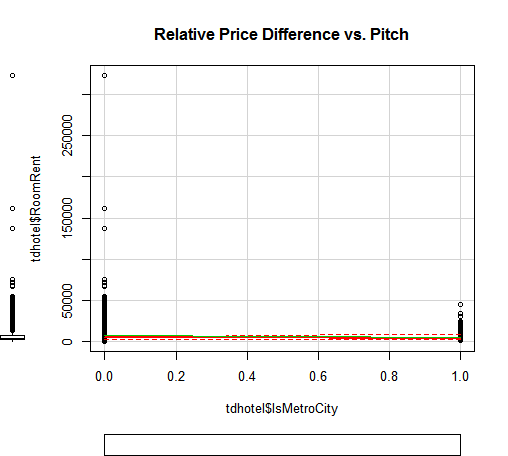
> scatterplot(StarRating,RoomRent , main="Room rent dependence on StarRating", xlab="StarRating", ylab="RoomRent")



> scatterplot(HotelCapacity, RoomRent , main="Room rent dependence on Hotel Capacity", xlab="HotelCapacity", ylab="RoomRent")



> scatterplot(tdhotel$IsMetroCity, tdhotel$RoomRent , main="Relative Price Difference vs. Pitch", xlab="tdhotel$IsMetroCity", ylab="tdhotel$RoomRent")



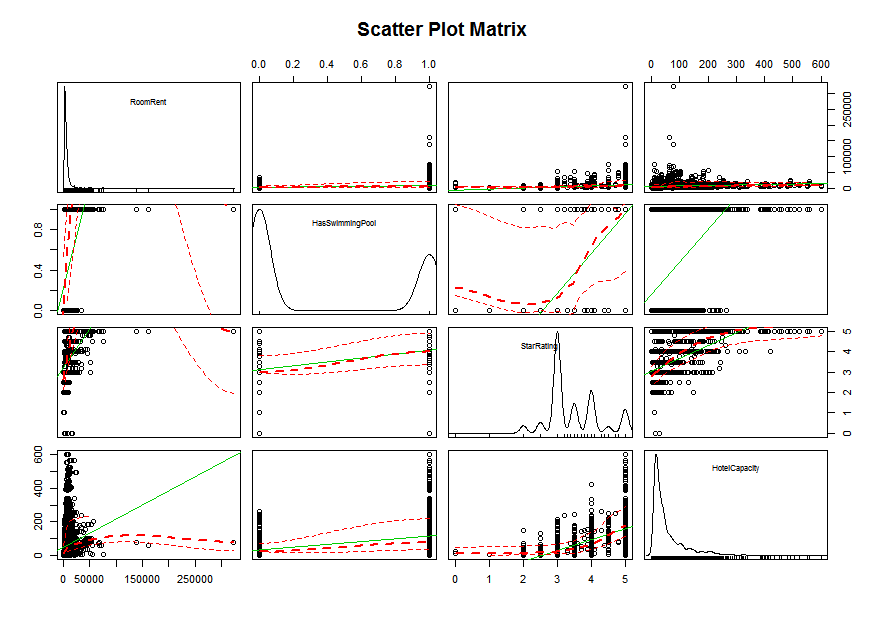
> scatterplotMatrix(

+ project[

+ ,c("RoomRent","HasSwimmingPool","StarRating","HotelCapacity")],

+ spread=TRUE, smoother.args=list(lty=2),

+ main="Scatter Plot Matrix")



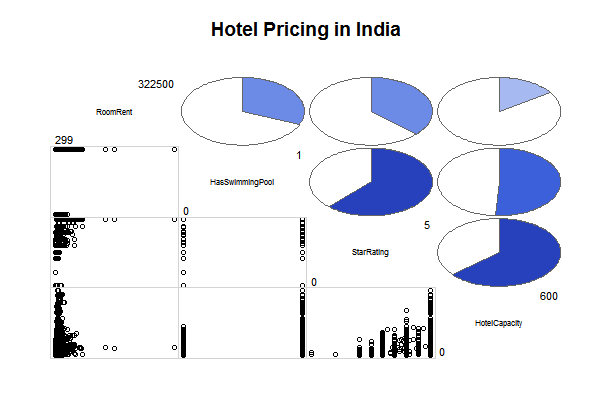
> hotelpricing2 <- c("RoomRent","HasSwimmingPool","StarRating","HotelCapacity")

> corrgram( project[,hotelpricing2], order=TRUE,

+ main="Hotel Pricing in India",

+ lower.panel=panel.pts, upper.panel=panel.pie,

+ diag.panel=panel.minmax, text.panel=panel.txt)



> corMatrix <- rcorr(as.matrix(project[,hotelpricing2]))

> corMatrix

RoomRent HasSwimmingPool StarRating HotelCapacity

RoomRent 1.00 0.31 0.37 0.16

HasSwimmingPool 0.31 1.00 0.62 0.51

StarRating 0.37 0.62 1.00 0.64

HotelCapacity 0.16 0.51 0.64 1.00

n= 13232

P

RoomRent HasSwimmingPool StarRating HotelCapacity

RoomRent 0 0 0

HasSwimmingPool 0 0 0

StarRating 0 0 0

HotelCapacity 0 0 0

> reg1<-cbind(RoomRent,HasSwimmingPool,HotelCapacity,StarRating) #Internal factors

> reg2<-cbind(RoomRent,IsNewYearEve,IsMetroCity,IsTouristDestination,CityRank) #External Factors

> t.test(reg1,reg2)

Welch Two Sample t-test

data: reg1 and reg2

t = 11.777, df = 107870, p-value < 2.2e-16

alternative hypothesis: true difference in means is not equal to 0

95 percent confidence interval:

239.3149 334.8717

sample estimates:

mean of x mean of y

1385.080 1097.986

> t.test(tdhotel$RoomRent,tdhotel$IsMetroCity)

Welch Two Sample t-test

data: tdhotel$RoomRent and tdhotel$IsMetroCity

t = 68.674, df = 9224, p-value < 2.2e-16

alternative hypothesis: true difference in means is not equal to 0

95 percent confidence interval:

5892.548 6238.827

sample estimates:

mean of x mean of y

6066.0239566 0.3365854

> Model1<-RoomRent ~ StarRating + HotelCapacity +HasSwimmingPool

> fit1 <- lm(Model1, data = project)

> summary(fit1)

Call:

lm(formula = Model1, data = project)

Residuals:

Min 1Q Median 3Q Max

-10804 -2295 -946 1002 310110

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) -6896.154 340.549 -20.25 <2e-16 \*\*\*

StarRating 3597.322 111.670 32.21 <2e-16 \*\*\*

HotelCapacity -15.558 1.006 -15.47 <2e-16 \*\*\*

HasSwimmingPool 2528.885 157.894 16.02 <2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 6710 on 13228 degrees of freedom

Multiple R-squared: 0.1628, Adjusted R-squared: 0.1626

F-statistic: 857.5 on 3 and 13228 DF, p-value: < 2.2e-16

|  |
| --- |
| > fit1$coefficients  (Intercept) StarRating HotelCapacity HasSwimmingPool  -6896.15387 3597.32177 -15.55769 2528.88529  > confint(fit1)  2.5 % 97.5 %  (Intercept) -7563.67956 -6228.62818  StarRating 3378.43262 3816.21092  HotelCapacity -17.52942 -13.58596  HasSwimmingPool 2219.38993 2838.38064 |
|  |
| > Model2<-RoomRent~IsNewYearEve+IsMetroCity+IsTouristDestination+CityRank  > fit2 <- lm(Model2, data = project)  > summary(fit2)  Call:  lm(formula = Model2, data = project)  Residuals:  Min 1Q Median 3Q Max  -6945 -2901 -1303 1043 316094  Coefficients:  Estimate Std. Error t value Pr(>|t|)  (Intercept) 4201.480 142.323 29.521 < 2e-16 \*\*\*  IsNewYearEve 863.418 190.799 4.525 6.08e-06 \*\*\*  IsMetroCity -1416.510 186.609 -7.591 3.39e-14 \*\*\*  IsTouristDestination 2171.934 157.543 13.786 < 2e-16 \*\*\*  CityRank 3.600 6.388 0.564 0.573  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  Residual standard error: 7243 on 13227 degrees of freedom  Multiple R-squared: 0.02461, Adjusted R-squared: 0.02432  F-statistic: 83.45 on 4 and 13227 DF, p-value: < 2.2e-16  > fit2$coefficients  (Intercept) IsNewYearEve IsMetroCity  4201.479658 863.417683 -1416.510427  IsTouristDestination CityRank  2171.933759 3.600397  > confint(fit2)  2.5 % 97.5 %  (Intercept) 3922.506685 4480.45263  IsNewYearEve 489.425251 1237.41012  IsMetroCity -1782.291410 -1050.72944  IsTouristDestination 1863.126748 2480.74077  CityRank -8.921011 16.12181  > Model3<-tdhotel$RoomRent ~tdhotel$IsMetroCity  > fit3 <- lm(Model3, data = tdhotel)  > summary(fit3)  Call:  lm(formula = Model3, data = tdhotel)  Residuals:  Min 1Q Median 3Q Max  -6457 -3344 -1756 1134 315744  Coefficients:  Estimate Std. Error t value Pr(>|t|)  (Intercept) 6755.7 107.7 62.70 <2e-16 \*\*\*  tdhotel$IsMetroCity -2049.1 185.7 -11.03 <2e-16 \*\*\*  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  Residual standard error: 8428 on 9223 degrees of freedom  Multiple R-squared: 0.01303, Adjusted R-squared: 0.01292  F-statistic: 121.8 on 1 and 9223 DF, p-value: < 2.2e-16  > fit3$coefficients  (Intercept) tdhotel$IsMetroCity  6755.728 -2049.120  > confint(fit3)  2.5 % 97.5 %  (Intercept) 6544.535 6966.920  tdhotel$IsMetroCity -2413.145 -1685.095  > AIC(fit1)  [1] 270742.2  > AIC(fit2)  [1] 272765.7  > Delhi <- project[ which(project$CityName=="Delhi") , ]  > summary(Delhi)  CityName Population CityRank IsMetroCity IsTouristDestination IsWeekend IsNewYearEve Date  Delhi :2048 Min. :11034555 Min. :1 Min. :1 Min. :1 Min. :0.0000 Min. :0.000 Dec 18 2016:256  Agra : 0 1st Qu.:11034555 1st Qu.:1 1st Qu.:1 1st Qu.:1 1st Qu.:0.0000 1st Qu.:0.000 Dec 21 2016:256  Ahmedabad : 0 Median :11034555 Median :1 Median :1 Median :1 Median :1.0000 Median :0.000 Dec 24 2016:256  Amritsar : 0 Mean :11034555 Mean :1 Mean :1 Mean :1 Mean :0.6274 Mean :0.125 Dec 25 2016:256  Bangalore : 0 3rd Qu.:11034555 3rd Qu.:1 3rd Qu.:1 3rd Qu.:1 3rd Qu.:1.0000 3rd Qu.:0.000 Dec 28 2016:256  Bhubaneswar: 0 Max. :11034555 Max. :1 Max. :1 Max. :1 Max. :1.0000 Max. :1.000 Dec 31 2016:256  (Other) : 0 (Other) :512  HotelName RoomRent StarRating Airport  OYO Rooms : 24 Min. : 798 Min. :2.000 Min. : 1.9  Courtyard by Marriott Gurugram Downtown: 16 1st Qu.: 1998 1st Qu.:3.000 1st Qu.:11.0  Lemon Tree Premier : 16 Median : 3225 Median :3.000 Median :15.0  Mosaic Hotels : 16 Mean : 4319 Mean :3.573 Mean :14.7  Aapno Ghar Resort : 8 3rd Qu.: 5760 3rd Qu.:4.000 3rd Qu.:16.5  Ahuja Residency : 8 Max. :45000 Max. :5.000 Max. :43.0  (Other) :1960  HotelAddress HotelPincode HotelDescription  443,Udyog vihar : 16 Min. :100025 3-star Gurgaon hotel with restaurant : 56  1 Old Judicial Complex, Jharsa Road, Sector-15, Gurgaon, Delhi N.C.R, India : 8 1st Qu.:110024 Gurgaon hotel next to shopping : 56  1&2 Ring Road : 8 Median :110055 3-star hotel with restaurant, near Jantar Mantar: 48  1/1 West Patel Nagar, Opp Metro Pillar 209, New Delhi, Delhi N.C.R, 110008, India: 8 Mean :119194 3-star hotel : 32  1028 Sector 46, Gurgaon : 8 3rd Qu.:122001 3-star hotel in Central Delhi with restaurant : 32  1078-80, Hardhyan Singh Road, Naiwalan, Karol Bagh, New Delhi, Delhi N.C.R : 8 Max. :201309 3-star hotel with restaurant, near Jama Masjid : 32  (Other) :1992 (Other) :1792  FreeWifi FreeBreakfast HotelCapacity HasSwimmingPool  Min. :0.0000 Min. :0.0000 Min. : 5.00 Min. :0.0000  1st Qu.:1.0000 1st Qu.:0.0000 1st Qu.: 20.00 1st Qu.:0.0000  Median :1.0000 Median :1.0000 Median : 36.50 Median :0.0000  Mean :0.9766 Mean :0.6816 Mean : 82.70 Mean :0.3633  3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.: 84.25 3rd Qu.:1.0000  Max. :1.0000 Max. :1.0000 Max. :550.00 Max. :1.0000    > Mumbai <- project[ which(project$CityName=="Mumbai") , ]  > summary(Mumbai)  CityName Population CityRank IsMetroCity IsTouristDestination IsWeekend IsNewYearEve Date  Mumbai :712 Min. :12442373 Min. :0 Min. :1 Min. :1 Min. :0.0000 Min. :0.0000 Dec 18 2016: 89  Agra : 0 1st Qu.:12442373 1st Qu.:0 1st Qu.:1 1st Qu.:1 1st Qu.:0.0000 1st Qu.:0.0000 Dec 21 2016: 89  Ahmedabad : 0 Median :12442373 Median :0 Median :1 Median :1 Median :1.0000 Median :0.0000 Dec 24 2016: 89  Amritsar : 0 Mean :12442373 Mean :0 Mean :1 Mean :1 Mean :0.6292 Mean :0.1236 Dec 25 2016: 89  Bangalore : 0 3rd Qu.:12442373 3rd Qu.:0 3rd Qu.:1 3rd Qu.:1 3rd Qu.:1.0000 3rd Qu.:0.0000 Dec 28 2016: 89  Bhubaneswar: 0 Max. :12442373 Max. :0 Max. :1 Max. :1 Max. :1.0000 Max. :1.0000 Dec 31 2016: 89  (Other) : 0 (Other) :178  HotelName RoomRent StarRating Airport  The Gordon House Hotel : 24 Min. : 1915 Min. :2.000 Min. : 2.30  Bentleys Hotel Colaba : 16 1st Qu.: 4334 1st Qu.:3.000 1st Qu.: 5.90  Diplomat Hotel : 16 Median : 5500 Median :3.500 Median :13.00  Fabhotel Crawford Inn : 16 Mean : 6344 Mean :3.607 Mean :12.64  FabHotel Golden Park Jogeshwari West: 16 3rd Qu.: 7672 3rd Qu.:4.000 3rd Qu.:19.00  Fortune Select Exotica Navi Mumbai : 16 Max. :24378 Max. :5.000 Max. :21.00  (Other) :608  HotelAddress HotelPincode  121, City Terrace, Walchand Hirachand Marg, Mumbai, Maharashtra : 16 Min. :400001  17, Oliver Road, Colaba, Mumbai, Maharashtra : 16 1st Qu.:400008  24-26, B.K. Boman Behram Marg, Apollo Bunder, Mumbai, Maharashtra : 16 Median :400052  27/29 Adi Marzban Street, Ballard, Estate, Near Universal Cafe, Mumbai, Maharashtra: 16 Mean :400126  34, Walchand Hirachand Marg, Ballard Estate, Fort, Mumbai, Maharashtra : 16 3rd Qu.:400064  41, Garden Road, Colaba, Mumbai, Maharashtra : 16 Max. :401107  (Other) :616  HotelDescription FreeWifi FreeBreakfast HotelCapacity HasSwimmingPool  3-star hotel with restaurant : 48 Min. :0.0000 Min. :0.0000 Min. : 11.0 Min. :0.0000  4-star hotel in Vashi with outdoor pool, restaurant: 32 1st Qu.:1.0000 1st Qu.:0.0000 1st Qu.: 33.0 1st Qu.:0.0000  3-star hotel with restaurant, near Gateway of India: 24 Median :1.0000 Median :1.0000 Median : 52.0 Median :0.0000  Luxury hotel with 2 restaurants : 24 Mean :0.9326 Mean :0.6629 Mean :102.7 Mean :0.3371  3-star hotel : 16 3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.: 98.0 3rd Qu.:1.0000  (Other) :560 Max. :1.0000 Max. :1.0000 Max. :600.0 Max. :1.0000  NA's : 8  > Jaipur <- project[ which(project$CityName=="Jaipur") , ]  > summary(Jaipur)  CityName Population CityRank IsMetroCity IsTouristDestination IsWeekend IsNewYearEve Date HotelName  Jaipur :768 Min. :3046163 Min. :9 Min. :0 Min. :1 Min. :0.0000 Min. :0.0000 Dec 18 2016: 97 Hotel H.R. Palace : 16  Agra : 0 1st Qu.:3046163 1st Qu.:9 1st Qu.:0 1st Qu.:1 1st Qu.:0.0000 1st Qu.:0.0000 Dec 21 2016: 97 The Raj Palace : 14  Ahmedabad : 0 Median :3046163 Median :9 Median :0 Median :1 Median :1.0000 Median :0.0000 Dec 24 2016: 97 66 Residency : 8  Amritsar : 0 Mean :3046163 Mean :9 Mean :0 Mean :1 Mean :0.6263 Mean :0.1263 Dec 25 2016: 97 Amer City Heritage: 8  Bangalore : 0 3rd Qu.:3046163 3rd Qu.:9 3rd Qu.:0 3rd Qu.:1 3rd Qu.:1.0000 3rd Qu.:0.0000 Dec 28 2016: 97 Anuraag Villa : 8  Bhubaneswar: 0 Max. :3046163 Max. :9 Max. :0 Max. :1 Max. :1.0000 Max. :1.0000 Dec 31 2016: 97 Arya Niwas : 8  (Other) : 0 (Other) :186 (Other) :706  RoomRent StarRating Airport HotelAddress  Min. : 491 Min. :2.000 Min. : 1.2 148, A/2 Durga Marg, Bani Park, Jaipur, Rajasthan, India : 8  1st Qu.: 2378 1st Qu.:3.000 1st Qu.: 7.4 15, Padmavati Colony 1st, Kings Road, Near Mansarovar Metro Station : 8  Median : 4250 Median :3.500 Median :10.0 17-18 Kanti Nagar,Hathi Babbu Ka Ahhta, Opp.Polovictory Cinema Hall Station Road, Jaipur, Rajasthan, India: 8  Mean : 7292 Mean :3.542 Mean :10.5 187, barodia, Scheme, Banipark, Jaipur, Rajasthan, India : 8  3rd Qu.: 6172 3rd Qu.:4.000 3rd Qu.:11.0 189A, Panchwati Circle, Lane no.- 1, Raja Park : 8  Max. :322500 Max. :5.000 Max. :55.0 2B & 2C, Jagatpura Road, Jawahar Circle, Jaipur, Rajasthan : 8  (Other) :720  HotelPincode HotelDescription FreeWifi FreeBreakfast HotelCapacity HasSwimmingPool  Min. :302001 3-star Jaipur hotel with restaurant : 64 Min. :0.0000 Min. :0.0000 Min. : 8.00 Min. :0.0000  1st Qu.:302004 Jaipur hotel next to shopping : 56 1st Qu.:1.0000 1st Qu.:0.0000 1st Qu.: 21.00 1st Qu.:0.0000  Median :302016 City-center Bani Park hotel with restaurant : 32 Median :1.0000 Median :1.0000 Median : 35.00 Median :0.0000  Mean :302074 3-star hotel in Jaipur with restaurant, conference center: 24 Mean :0.9297 Mean :0.5182 Mean : 61.47 Mean :0.4857  3rd Qu.:302018 3.5-star hotel in Jaipur with outdoor pool, restaurant : 24 3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.: 82.00 3rd Qu.:1.0000  Max. :303905 4-star hotel in Jaipur with outdoor pool, restaurant : 24 Max. :1.0000 Max. :1.0000 Max. :317.00 Max. :1.0000  (Other) :544  > Bangalore <- project[ which(project$CityName=="Bangalore") , ]  > summary(Bangalore)  CityName Population CityRank IsMetroCity IsTouristDestination IsWeekend IsNewYearEve Date  Bangalore :656 Min. :8443675 Min. :2 Min. :0 Min. :0 Min. :0.000 Min. :0.0000 18-Dec-16: 44  Agra : 0 1st Qu.:8443675 1st Qu.:2 1st Qu.:0 1st Qu.:0 1st Qu.:0.000 1st Qu.:0.0000 21-Dec-16: 44  Ahmedabad : 0 Median :8443675 Median :2 Median :0 Median :0 Median :1.000 Median :0.0000 24-Dec-16: 44  Amritsar : 0 Mean :8443675 Mean :2 Mean :0 Mean :0 Mean :0.625 Mean :0.1174 25-Dec-16: 44  Bhubaneswar: 0 3rd Qu.:8443675 3rd Qu.:2 3rd Qu.:0 3rd Qu.:0 3rd Qu.:1.000 3rd Qu.:0.0000 28-Dec-16: 44  Chandigarh : 0 Max. :8443675 Max. :2 Max. :0 Max. :0 Max. :1.000 Max. :1.0000 31-Dec-16: 44  (Other) : 0 (Other) :392  HotelName RoomRent StarRating Airport  Citrine Hotel : 16 Min. : 679 Min. :3.000 Min. : 5.70  Davanam Sarovar Portico Suites : 16 1st Qu.: 2199 1st Qu.:3.000 1st Qu.:27.00  Aurick Boutique Hotel : 8 Median : 3399 Median :4.000 Median :30.00  Bengaluru Marriott Hotel Whitefield: 8 Mean : 4113 Mean :3.707 Mean :29.92  Casa Cottage : 8 3rd Qu.: 6000 3rd Qu.:4.000 3rd Qu.:32.00  Casa De Bengaluru : 8 Max. :13500 Max. :5.000 Max. :51.00  (Other) :592  HotelAddress HotelPincode  Opp Madiwala Police Station, Hosur Main Road, Bengaluru, Karnataka : 16 Min. :560001  # 211, S.C. Road,Seshadripuram,Bengaluru,Karnataka,India : 8 1st Qu.:560020  # 253/6&7, Vasanthapura Main Road, Off Kanakapura Main Road : 8 Median :560043  #1, 14th Cross, South-End Circle, 2nd block, Jayanagar, Bengaluru : 8 Mean :560078  #105,1st Main Road,Â Seshadripuram,Â Bengaluru : 8 3rd Qu.:560095  #24/1, Doddanakundi, Ferns City Road, Outer Ring Road, Marathahalli, Bengaluru: 8 Max. :562110  (Other) :600  HotelDescription FreeWifi FreeBreakfast HotelCapacity HasSwimmingPool  3-star hotel in Bengaluru : 40 Min. :0.0000 Min. :0.000 Min. : 8.00 Min. :0.000  Abc : 40 1st Qu.:1.0000 1st Qu.:0.000 1st Qu.: 27.00 1st Qu.:0.000  3-star Bengaluru hotel with restaurant : 24 Median :1.0000 Median :1.000 Median : 46.50 Median :0.000  3-star hotel in Bengaluru with restaurant, conference center: 24 Mean :0.9634 Mean :0.622 Mean : 86.93 Mean :0.378  3.5-star hotel in Bengaluru with restaurant, bar/lounge : 24 3rd Qu.:1.0000 3rd Qu.:1.000 3rd Qu.:132.00 3rd Qu.:1.000  3-star hotel, convenient to Bull Temple : 16 Max. :1.0000 Max. :1.000 Max. :327.00 Max. :1.000  (Other) :488  > Goa <- project[ which(project$CityName=="Goa") , ]  > summary(Goa)  CityName Population CityRank IsMetroCity IsTouristDestination IsWeekend IsNewYearEve Date  Goa :624 Min. :1457723 Min. :18 Min. :0 Min. :1 Min. :0.000 Min. :0.000 Dec 18 2016: 78  Agra : 0 1st Qu.:1457723 1st Qu.:18 1st Qu.:0 1st Qu.:1 1st Qu.:0.000 1st Qu.:0.000 Dec 21 2016: 78  Ahmedabad : 0 Median :1457723 Median :18 Median :0 Median :1 Median :1.000 Median :0.000 Dec 24 2016: 78  Amritsar : 0 Mean :1457723 Mean :18 Mean :0 Mean :1 Mean :0.625 Mean :0.125 Dec 25 2016: 78  Bangalore : 0 3rd Qu.:1457723 3rd Qu.:18 3rd Qu.:0 3rd Qu.:1 3rd Qu.:1.000 3rd Qu.:0.000 Dec 28 2016: 78  Bhubaneswar: 0 Max. :1457723 Max. :18 Max. :0 Max. :1 Max. :1.000 Max. :1.000 Dec 31 2016: 78  (Other) : 0 (Other) :156  HotelName RoomRent StarRating Airport HotelAddress  Aguada Anchorage : 8 Min. : 1256 Min. :2.000 Min. : 1.50 Small Vagator, Vagator, Goa : 16  Alegria - The Goan Village: 8 1st Qu.: 4204 1st Qu.:3.000 1st Qu.:15.00 1088, Escrea-Walddo, Opp. Novotel Shrems Hotel, Candolim, Goa: 8  Anjuna Beach Resort : 8 Median : 6699 Median :3.000 Median :17.00 1795/H, Calwaddo, Benaulim, Goa : 8  Beach Bay Cottages : 8 Mean : 8171 Mean :3.295 Mean :20.93 262/6, Ward 14, Ghat Bhat Waddo,, Arpora, 403518, India : 8  Beleza By The Beach : 8 3rd Qu.: 9500 3rd Qu.:4.000 3rd Qu.:23.00 317/C, Baman Vaddo, Candolim, Goa : 8  Bogmallo Beach Resort : 8 Max. :41999 Max. :5.000 Max. :60.00 376, off Fort Aguada, Candolim, Bardez, Candolim, Goa : 8  (Other) :576 (Other) :568  HotelPincode HotelDescription FreeWifi FreeBreakfast HotelCapacity HasSwimmingPool  Min. :403114 4-star hotel with outdoor pool, near Candolim Beach: 40 Min. :0.0000 Min. :0.0000 Min. : 1.00 Min. :0.0000  1st Qu.:403515 No Description : 32 1st Qu.:1.0000 1st Qu.:0.0000 1st Qu.: 16.00 1st Qu.:0.0000  Median :403518 3-star hotel with outdoor pool, near Candolim Beach: 16 Median :1.0000 Median :1.0000 Median : 30.00 Median :1.0000  Mean :420829 3-star hotel with outdoor pool, near Vagator Beach : 16 Mean :0.7949 Mean :0.5769 Mean : 48.88 Mean :0.6923  3rd Qu.:403713 4-star hotel with outdoor pool, near Anjuna Beach : 16 3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.: 73.00 3rd Qu.:1.0000  Max. :753012 Luxury hotel with spa, near Candolim Beach : 16 Max. :1.0000 Max. :1.0000 Max. :255.00 Max. :1.0000  (Other) :488  > Kochi <- project[ which(project$CityName=="Kochi") , ]  > summary(Kochi)  CityName Population CityRank IsMetroCity IsTouristDestination IsWeekend IsNewYearEve Date  Kochi :608 Min. :595575 Min. :17.00 Min. :0 Min. :1 Min. :0.0000 Min. :0.000 Dec 18 2016: 76  Agra : 0 1st Qu.:595575 1st Qu.:17.00 1st Qu.:0 1st Qu.:1 1st Qu.:0.0000 1st Qu.:0.000 Dec 21 2016: 76  Ahmedabad : 0 Median :595575 Median :17.00 Median :0 Median :1 Median :1.0000 Median :0.000 Dec 24 2016: 76  Amritsar : 0 Mean :595575 Mean :21.92 Mean :0 Mean :1 Mean :0.5559 Mean :0.125 Dec 25 2016: 76  Bangalore : 0 3rd Qu.:595575 3rd Qu.:28.00 3rd Qu.:0 3rd Qu.:1 3rd Qu.:1.0000 3rd Qu.:0.000 Dec 28 2016: 76  Bhubaneswar: 0 Max. :595575 Max. :28.00 Max. :0 Max. :1 Max. :1.0000 Max. :1.000 Dec 31 2016: 76  (Other) : 0 (Other) :152  HotelName RoomRent StarRating Airport  Madeleine Inn : 16 Min. : 605 Min. :2.000 Min. : 0.90  Abad Atrium : 8 1st Qu.: 2327 1st Qu.:3.000 1st Qu.:23.00  Abad Metro : 8 Median : 3529 Median :3.000 Median :26.00  Aquatic Floating Resort : 8 Mean : 6040 Mean :3.421 Mean :24.11  Aroma Homestay : 8 3rd Qu.: 6950 3rd Qu.:4.000 3rd Qu.:27.00  Atlas Airport Hotel Apartment: 8 Max. :51765 Max. :5.000 Max. :61.00  (Other) :552  HotelAddress HotelPincode  1/1128, Kunnumpuram, Opp. Canara Bank, Cochin, Kerala, India : 8 Min. :682001  1/1469(1) Opp. St. Antony's Chappel, Near Pattalam Market, Cochin, Kerala, 682001 India: 8 1st Qu.:682001  1/1901 Kunumpuram Fort Kochi, Cochin, Kerala, India : 8 Median :682014  1/268 - 1/269 Parade Road, Cochin, Kerala, 682001 India : 8 Mean :682262  1/275, Napier Lane, Napier Street,, Fort Kochi, Cochin, Kerala, 682001, India : 8 3rd Qu.:682035  1/334,Rose Street,Fort Kochi, Cochin, Kerala, 682001, India : 8 Max. :688525  (Other) :560  HotelDescription FreeWifi FreeBreakfast HotelCapacity HasSwimmingPool  3-star Cochin hotel with restaurant : 32 Min. :0.0000 Min. :0.0000 Min. : 3.00 Min. :0.0000  3-star hotel in Ernakulam : 24 1st Qu.:1.0000 1st Qu.:0.0000 1st Qu.: 10.00 1st Qu.:0.0000  3-star hotel in Cochin with outdoor pool, restaurant : 16 Median :1.0000 Median :1.0000 Median : 23.00 Median :0.0000  3.5-star hotel in Cochin with 2 restaurants, outdoor pool: 16 Mean :0.8684 Mean :0.6447 Mean : 47.46 Mean :0.4868  3.5-star hotel in Ernakulam with restaurant : 16 3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.: 60.00 3rd Qu.:1.0000  4-star hotel in Ernakulam with outdoor pool, restaurant : 16 Max. :1.0000 Max. :1.0000 Max. :273.00 Max. :1.0000  (Other) :488  > summary(project)  CityName Population CityRank IsMetroCity IsTouristDestination IsWeekend IsNewYearEve Date  Delhi :2048 Min. : 8096 Min. : 0.00 Min. :0.0000 Min. :0.0000 Min. :0.0000 Min. :0.0000 Dec 21 2016:1611  Jaipur : 768 1st Qu.: 744983 1st Qu.: 2.00 1st Qu.:0.0000 1st Qu.:0.0000 1st Qu.:0.0000 1st Qu.:0.0000 Dec 24 2016:1611  Mumbai : 712 Median : 3046163 Median : 9.00 Median :0.0000 Median :1.0000 Median :1.0000 Median :0.0000 Dec 25 2016:1611  Bangalore: 656 Mean : 4416837 Mean :14.83 Mean :0.2842 Mean :0.6972 Mean :0.6228 Mean :0.1244 Dec 28 2016:1611  Goa : 624 3rd Qu.: 8443675 3rd Qu.:24.00 3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.:0.0000 Dec 31 2016:1611  Kochi : 608 Max. :12442373 Max. :44.00 Max. :1.0000 Max. :1.0000 Max. :1.0000 Max. :1.0000 Dec 18 2016:1608  (Other) :7816 (Other) :3569  HotelName RoomRent StarRating Airport HotelAddress  Vivanta by Taj : 32 Min. : 299 Min. :0.000 Min. : 0.20 The Mall, Shimla : 32  Goldfinch Hotel : 24 1st Qu.: 2436 1st Qu.:3.000 1st Qu.: 8.40 #2-91/14/8, White Fields, Kondapur, Hitech City, Hyderabad, 500084 India: 16  OYO Rooms : 24 Median : 4000 Median :3.000 Median : 15.00 121, City Terrace, Walchand Hirachand Marg, Mumbai, Maharashtra : 16  The Gordon House Hotel: 24 Mean : 5474 Mean :3.459 Mean : 21.16 14-4507/9, Balmatta Road, Near Jyothi Circle, Hampankatta : 16  Apnayt Villa : 16 3rd Qu.: 6299 3rd Qu.:4.000 3rd Qu.: 24.00 144/7, Rajiv Gandi Salai (OMR), Kottivakkam, Chennai, Tamil Nadu : 16  Bentleys Hotel Colaba : 16 Max. :322500 Max. :5.000 Max. :124.00 17, Oliver Road, Colaba, Mumbai, Maharashtra : 16  (Other) :13096 (Other) :13120  HotelPincode HotelDescription FreeWifi FreeBreakfast HotelCapacity HasSwimmingPool  Min. : 100025 3 : 120 Min. :0.0000 Min. :0.0000 Min. : 0.00 Min. :0.0000  1st Qu.: 221001 Abc : 112 1st Qu.:1.0000 1st Qu.:0.0000 1st Qu.: 16.00 1st Qu.:0.0000  Median : 395003 3-star hotel: 104 Median :1.0000 Median :1.0000 Median : 34.00 Median :0.0000  Mean : 397430 3.5 : 88 Mean :0.9259 Mean :0.6491 Mean : 62.51 Mean :0.3558  3rd Qu.: 570001 4 : 72 3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.: 75.00 3rd Qu.:1.0000  Max. :7000157 (Other) :12728 Max. :1.0000 Max. :1.0000 Max. :600.00 Max. :1.0000  NA's : 8 |