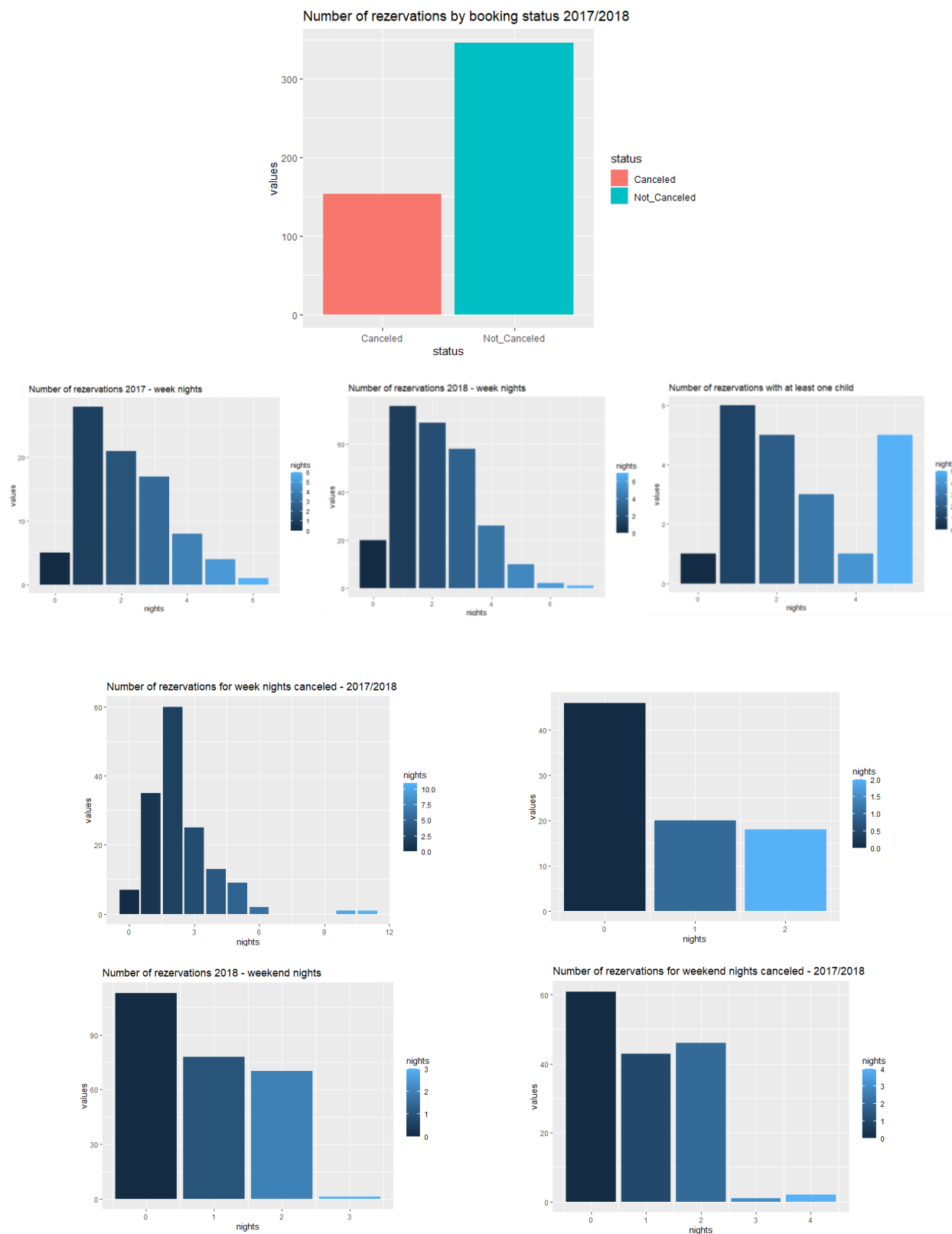
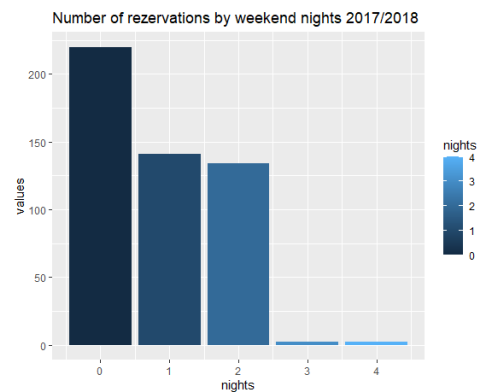
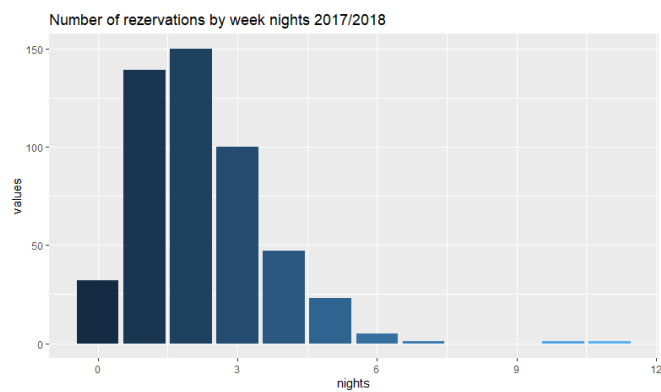
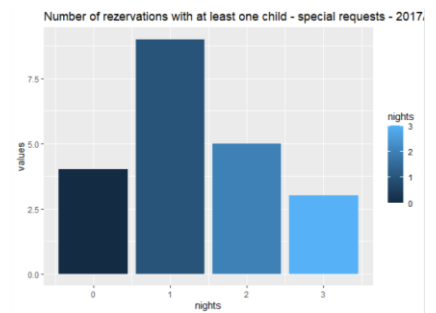
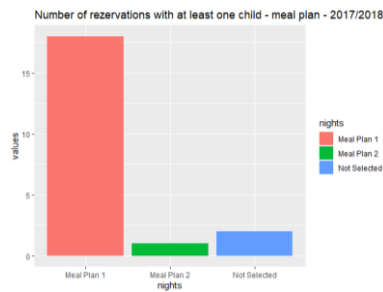
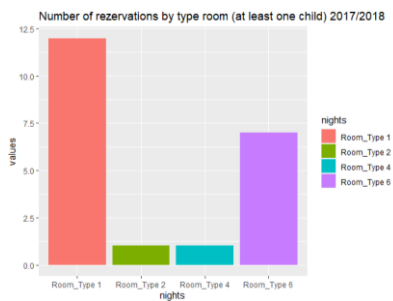
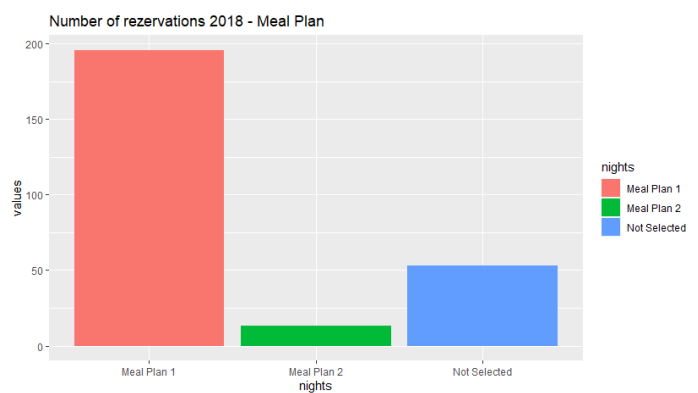
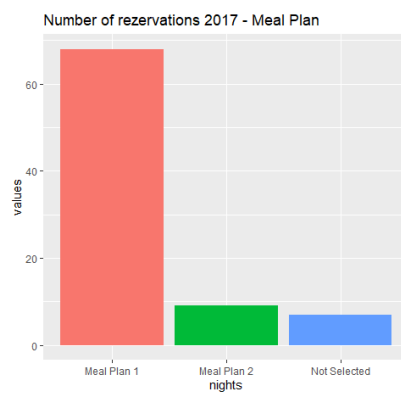
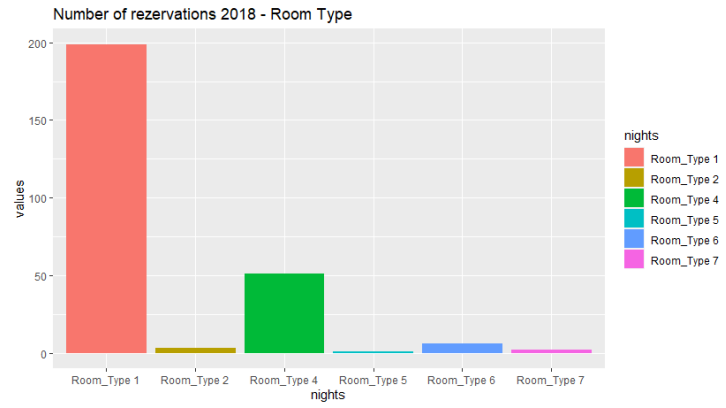
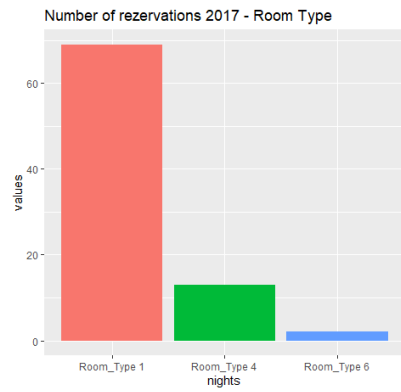


# Anexa 1 - Grafice



# Bangheorghe Chira Diana, Stefania Apatachioae, Calin Lorena



	1	Booking	flno	of_adu	no_of_chi	no_of_wet	no_of_wet	type_of	rr	required	croom	typ	lead	time	arrival	year	mc	arrival	date	market	se	repeated	no_of_pre	no_of_pre	avg	price	no_of_spe	booking
2	INN00001	2	0	1	2	Meal Plan	0	Room_Typ	224	2017	10	2	Offline	0	0	0	65	0	Not_Canceled	0	0	0	0	0	0	106.68	1	Not_Canceled
3	INN00002	2	0	2	3	Not Select	0	Room_Typ	5	2018	11	6	Online	0	0	0	60	0	Canceled	0	0	0	0	0	0	100	0	Canceled
4	INN00003	1	0	2	1	Meal Plan	0	Room_Typ	211	2018	5	20	Online	0	0	0	94.5	0	Canceled	0	0	0	0	0	0	115	1	Canceled
5	INN00004	2	0	0	2	Meal Plan	0	Room_Typ	48	2018	9	13	Online	0	0	0	107.55	1	Not_Canceled	0	0	0	0	0	0	105.61	1	Not_Canceled
6	INN00005	2	0	1	1	Not Select	0	Room_Typ	346	2018	10	15	Online	0	0	0	96.9	1	Not_Canceled	0	0	0	0	0	0	133.44	3	Not_Canceled
7	INN00006	2	0	0	2	Meal Plan	0	Room_Typ	83	2018	12	26	Online	0	0	0	85.03	0	Not_Canceled	0	0	0	0	0	0	140.4	1	Not_Canceled
8	INN00007	2	0	1	3	Meal Plan	0	Room_Typ	121	2018	7	6	Offline	0	0	0	88	0	Canceled	0	0	0	0	0	0	90	2	Canceled
9	INN00008	2	0	1	3	Meal Plan	0	Room_Typ	44	2018	10	18	Online	0	0	0	94.5	2	Not_Canceled	0	0	0	0	0	0	115	1	Canceled
10	INN00009	3	0	0	4	Meal Plan	0	Room_Typ	95	2018	11	20	Online	0	0	0	96	0	Not_Canceled	0	0	0	0	0	0	96	1	Not_Canceled
11	INN00010	2	0	0	5	Meal Plan	0	Room_Typ	47	2017	10	20	Online	0	0	0	72	0	Not_Canceled	0	0	0	0	0	0	72	0	Not_Canceled
12	INN00011	1	0	1	0	Not Select	0	Room_Typ	256	2018	6	15	Online	0	0	0	65	0	Canceled	0	0	0	0	0	0	65	0	Canceled
13	INN00012	1	0	2	1	Meal Plan	0	Room_Typ	35	2018	4	30	Online	0	0	0	85.03	0	Not_Canceled	0	0	0	0	0	0	140.4	1	Not_Canceled
14	INN00013	2	0	2	1	Not Select	0	Room_Typ	30	2018	11	26	Online	0	0	0	88	0	Canceled	0	0	0	0	0	0	90	2	Canceled
15	INN00014	1	0	2	0	Meal Plan	0	Room_Typ	95	2018	11	20	Online	0	0	0	94.5	2	Not_Canceled	0	0	0	0	0	0	115	1	Canceled
16	INN00015	2	0	0	2	Meal Plan	0	Room_Typ	47	2017	10	20	Online	0	0	0	96	0	Not_Canceled	0	0	0	0	0	0	96	1	Not_Canceled
17	INN00016	2	0	0	2	Meal Plan	0	Room_Typ	256	2018	6	15	Online	0	0	0	72	0	Not_Canceled	0	0	0	0	0	0	72	0	Not_Canceled
18	INN00017	1	0	1	0	Meal Plan	0	Room_Typ	0	2017	10	5	Offline	0	0	0	65	0	Canceled	0	0	0	0	0	0	65	0	Canceled
19	INN00018	2	0	1	3	Not Select	0	Room_Typ	1	2017	8	10	Online	0	0	0	96	1	Not_Canceled	0	0	0	0	0	0	96	1	Not_Canceled
20	INN00019	2	0	2	2	Meal Plan	0	Room_Typ	99	2017	10	30	Online	0	0	0	65	0	Canceled	0	0	0	0	0	0	65	0	Canceled
21	INN00020	2	0	1	0	Meal Plan	0	Room_Typ	12	2017	10	4	Offline	0	0	0	72	0	Not_Canceled	0	0	0	0	0	0	72	0	Not_Canceled
22	INN00021	2	0	2	2	Meal Plan	0	Room_Typ	99	2017	10	30	Online	0	0	0	65	0	Canceled	0	0	0	0	0	0	65	0	Canceled

## Anexa 2 - Script-ul

```
library(readxl)

Hotel2 <- read_excel("C:/Users/Chira/Desktop/PRJ_SDA/Hotel.xlsx")

View(Hotel2)


install.packages("ggplot2",dependencies = TRUE)

require("ggplot2")


barchart <- Hotel2

#barchart <- barchart [ barchart$arrival_year==2017,]


dat <- data.frame(status=barchart$type_of_meal_plan,
                  values=as.numeric(barchart$no_of_week_nights))

ggplot(data = dat, aes(x=status,y=values,fill=status))+geom_bar(stat="identity")+
  ggtitle("Week nights - meal plan")


#barchart2 <- Hotel2

#barchart2 <- barchart2 [ barchart2$arrival_year==2017,]

#barchart2 <- barchart2 [ barchart2$booking_status=="Not_Canceled"]


library(readxl)

Hotel3 <- read_excel("C:/Users/Chira/Desktop/PRJ_SDA/Hotel.xlsx")

View(Hotel3)


barchart2 <- Hotel3

dat <- data.frame(status=barchart2$booking_status,
```

```
values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=status,y=values,fill=status))+geom_bar(stat="identity")+  
ggtitle("Number of rezervations by booking status 2017/2018")
```

```
dat <- data.frame(nights=barchart2$no_of_week_nights,  
values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
ggtitle("Number of rezervations by week nights 2017/2018")
```

```
dat <- data.frame(nights=barchart2$no_of_weekend_nights,  
values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
ggtitle("Number of rezervations by weekend nights 2017/2018")
```

```
barchart2 <- barchart2 [ barchart2$booking_status!="Canceled",]  
barchart2 <- barchart2 [ barchart2$no_of_children!=0,]
```

```
dat <- data.frame(nights=barchart2$room_type_reserved,  
values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
ggtitle("Number of rezervations by type room (at least one child) 2017/2018")
```

```
dat <- data.frame(nights=as.numeric(barchart2$no_of_week_nights),  
values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
ggtitle("Number of rezervations with at least one child")
```

```
dat <- data.frame(nights=barchart2$type_of_meal_plan,  
                 values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations with at least one child - meal plan - 2017/2018")
```

```
dat <- data.frame(nights=barchart2$no_of_special_requests,  
                 values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations with at least one child - special requests - 2017/2018")
```

```
barchart2 <- barchart2 [ barchart2$no_of_children==0,]  
dat <- data.frame(nights=barchart2$no_of_week_nights,  
                 values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations no children (week nights) - 2017/2018")
```

```
barchart2 <- barchart2 [ barchart2$booking_status=="Canceled",]  
dat <- data.frame(nights=barchart2$no_of_week_nights,  
                 values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations for week nights canceled - 2017/2018")
```

```
dat <- data.frame(nights=barchart2$no_of_weekend_nights,  
                 values=as.numeric(barchart2$Nr))
```

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```
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations for weekend nights canceled - 2017/2018")
```

```
barchart2 <- barchart2 [ barchart2$arrival_year==2017,]  
barchart2 <- barchart2 [ barchart2$booking_status!="Canceled",]
```

```
dat <- data.frame(nights=barchart2$no_of_week_nights,  
  values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations 2017 - week nights")
```

```
dat <- data.frame(nights=barchart2$no_of_weekend_nights,  
  values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations 2017 - weekend nights")
```

```
dat <- data.frame(nights=barchart2$room_type_reserved,  
  values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations 2017 - Room Type")
```

```
dat <- data.frame(nights=barchart2$type_of_meal_plan,  
  values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations 2017 - Meal Plan")
```

```
dat <- data.frame(nights=barchart2$room_type_reserved,
```

```
      values=as.numeric(barchart2$avg_price_per_room))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Castig pe tip camera - 2017")
```

```
barchart2 <- barchart2 [ barchart2$arrival_year==2018,  
dat <- data.frame(nights=barchart2$no_of_week_nights,  
  values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations 2018 - week nights")  
dat <- data.frame(nights=barchart2$no_of_weekend_nights,  
  values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations 2018 - weekend nights")
```

```
dat <- data.frame(nights=barchart2$room_type_reserved,  
  values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations 2018 - Room Type")
```

```
dat <- data.frame(nights=barchart2$type_of_meal_plan,  
  values=as.numeric(barchart2$Nr))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+  
  ggtitle("Number of rezervations 2018 - Meal Plan")
```

```
dat <- data.frame(nights=barchart2$room_type_reserved,  
  values=as.numeric(barchart2$avg_price_per_room))  
ggplot(data = dat, aes(x=nights,y=values,fill=nights))+geom_bar(stat="identity")+
```



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```
ggtitle("Castig pe tip camera - 2018")
```

```
#group_by_year <- aggregate(x=barchart$arrival_year,  
#                           by=list(barchart$booking_status),  
#                           FUN = function(x) length(unique(x)))  
#dat <- data.frame(status=barchart$Booking_ID,  
#                  values=group_by_year$x  
#ggplot(data = dat, aes(x=status,y=values,fill=status))+geom_bar(stat="identity")+  
# ggtitle("Week nights - meal plan")
```