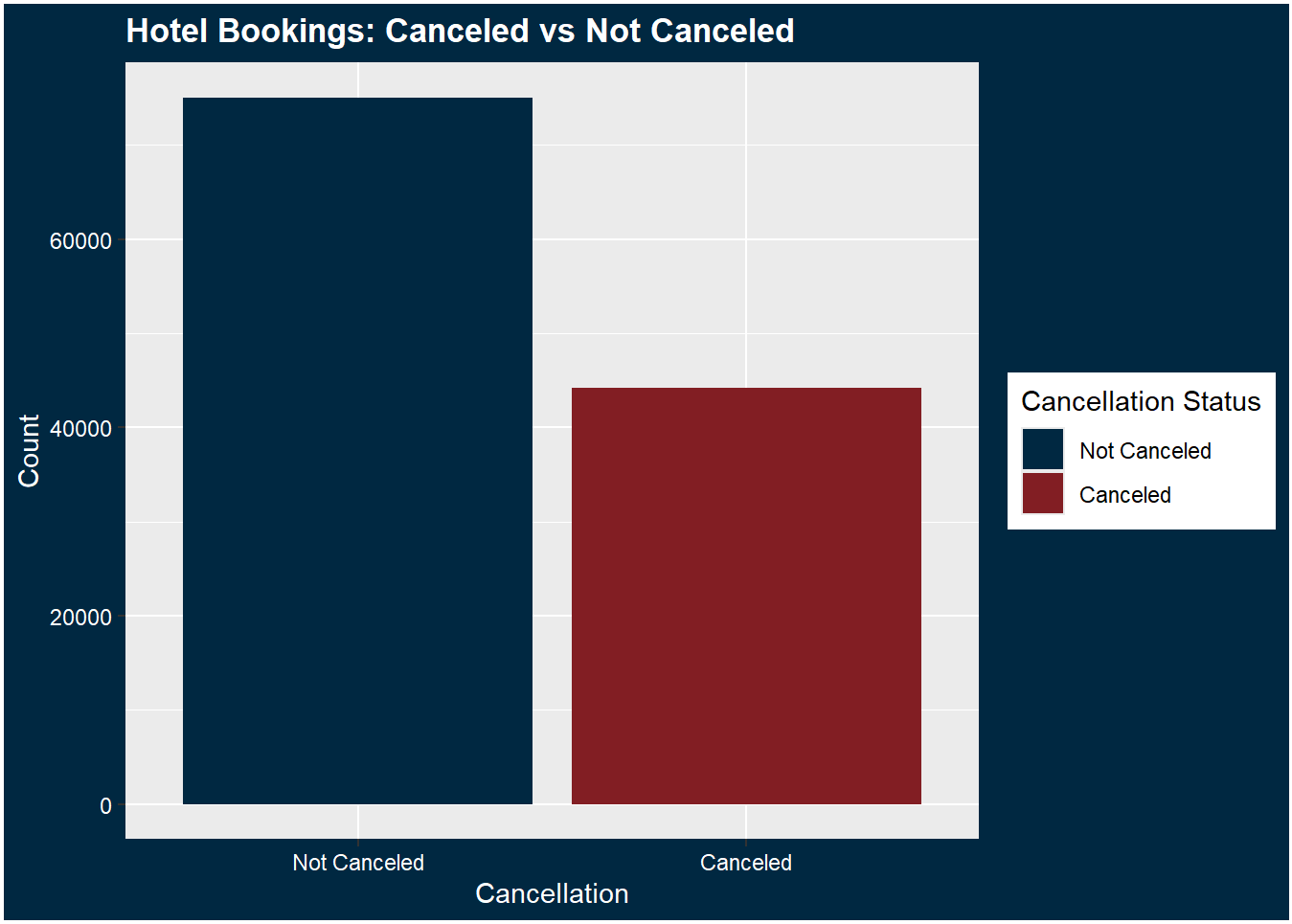
```
library(tidyverse)
```

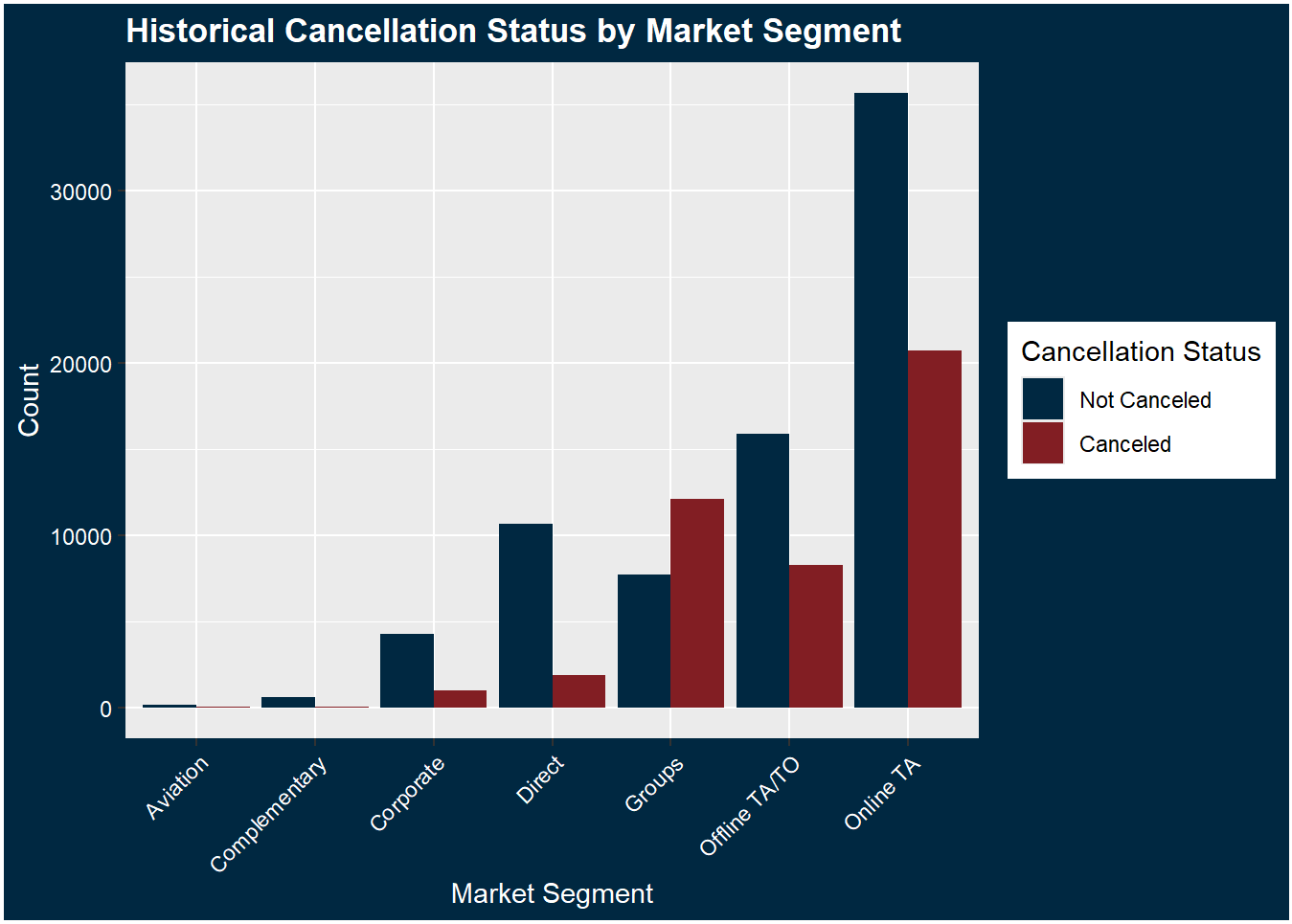
```
Warning: package 'tidyverse' was built under R version 4.4.2

Warning: package 'readr' was built under R version 4.4.2

Warning: package 'forcats' was built under R version 4.4.2

── Attaching core tidyverse packages ──────────────────────── tidyverse 2.0.0 ──
✓ dplyr     1.1.4     ✓ readr     2.1.5
✓ forcats   1.0.0     ✓ stringr   1.5.1
✓ ggplot2   3.5.1     ✓ tibble    3.2.1
✓ lubridate 1.9.3     ✓ tidyr     1.3.1
✓ purrr     1.0.2
── Conflicts ────────────────────────────────────────── tidyverse_conflicts() ──
✖ dplyr::filter() masks stats::filter()
✖ dplyr::lag()    masks stats::lag()
ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become
errors
```

```
data=read.csv("data.csv",stringsAsFactors = TRUE)
data$is_canceled=as.factor(data$is_canceled)
```

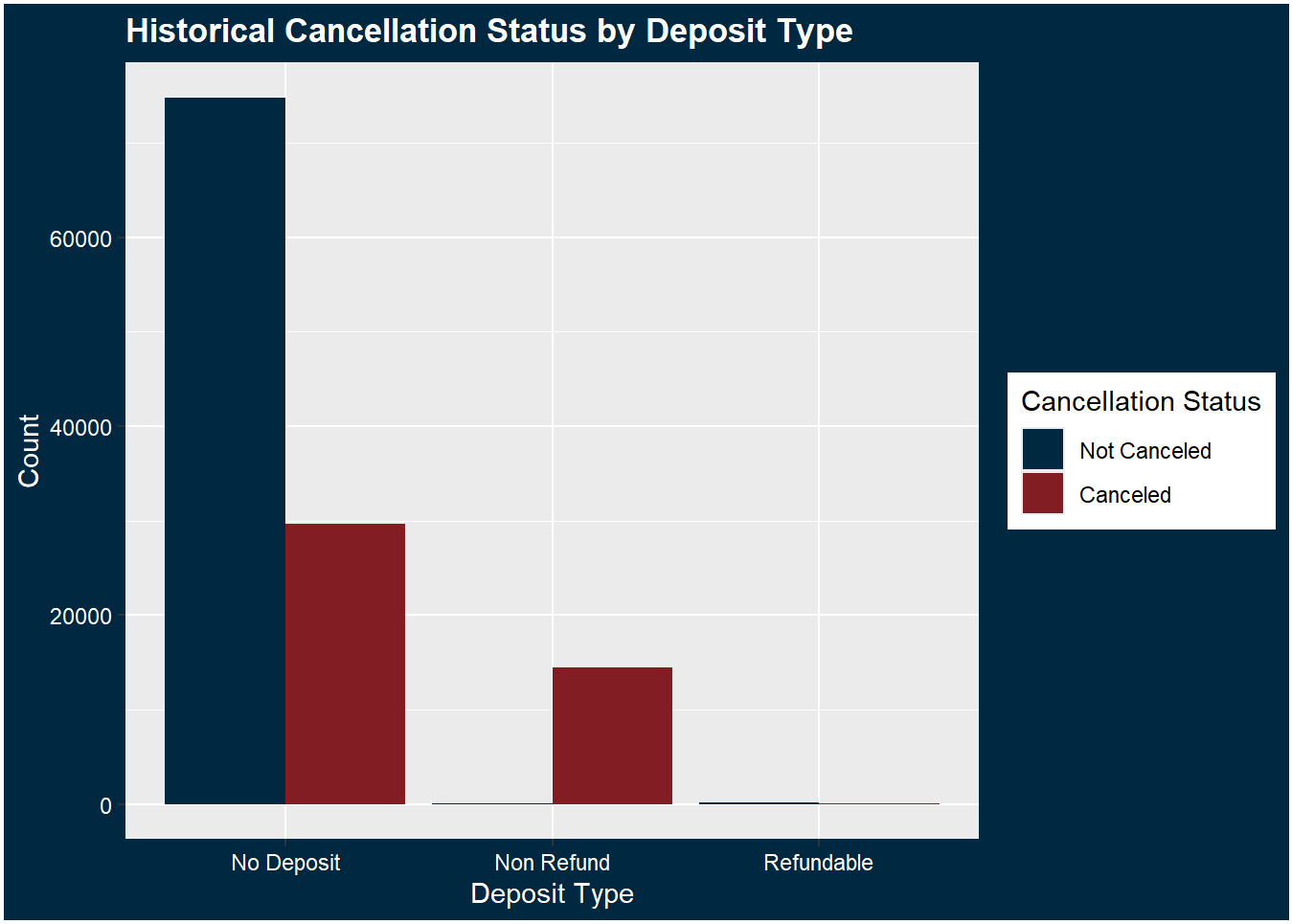
```
#Hotel Bookings Cancellation vs Non Cancellation Count
ggplot(data=data,mapping=aes(x=is_canceled,fill=is_canceled))+geom_bar()+ggtitle("Hotel Bookings:
  scale_x_discrete(labels = c("0" = "Not Canceled", "1" = "Canceled"))+xlab("Cancellation")+
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
```



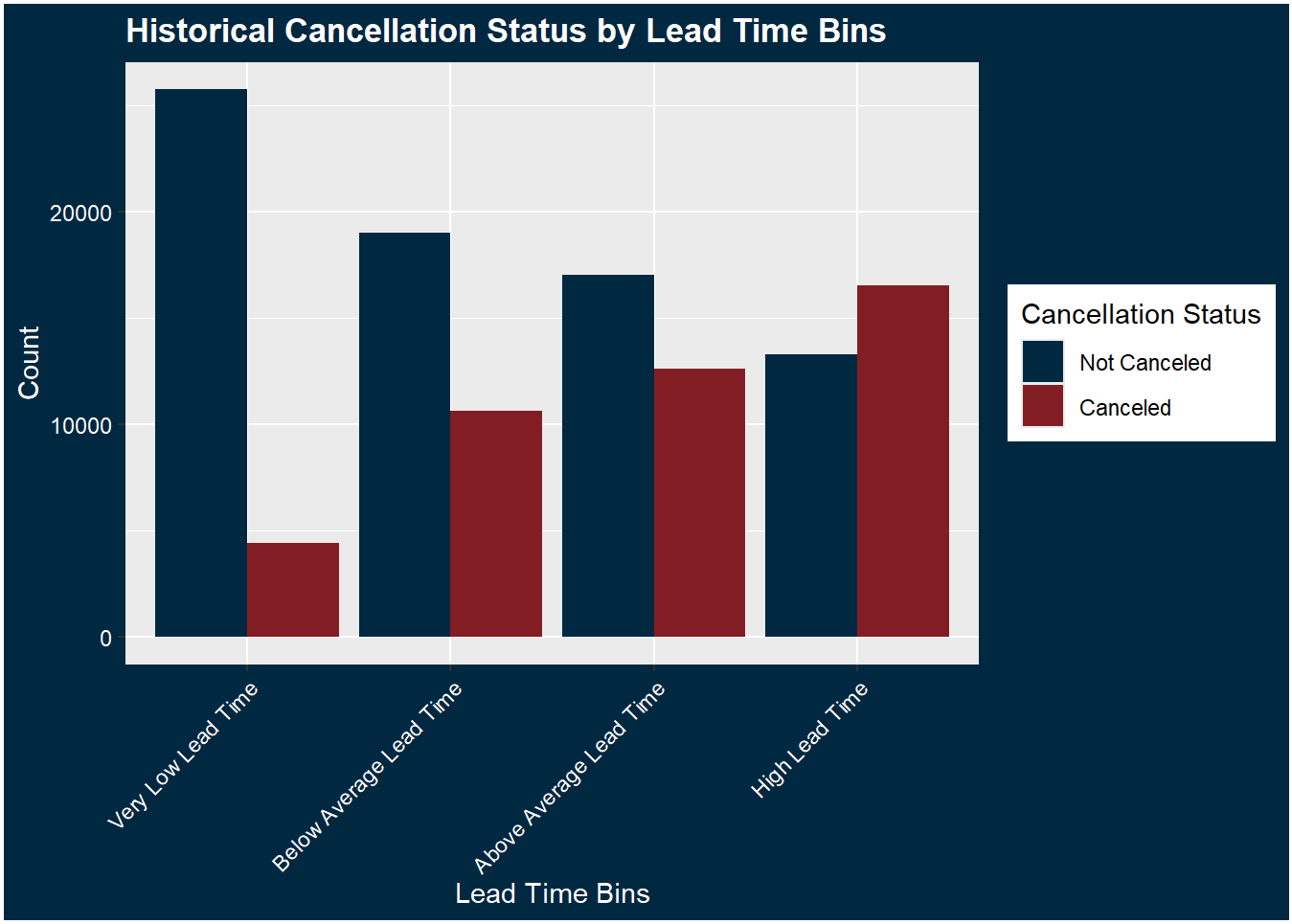

```
#Historical Cancellation Status by Market Segment
ggplot(data,mapping=aes(x=market_segment,fill=is_canceled))+geom_bar(position="dodge")+ ggtitle("
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
```




```
#Historical Cancellation Status by Deposit_type
ggplot(data,mapping=aes(x=deposit_type,fill=is_canceled))+geom_bar(position="dodge")+ ggtitle("His
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
```




```
#Historical Cancellation Status by Lead Time Bins.
data$lead_timeCategories=factor(data$lead_timeCategories,levels=c("Very Low Lead Time","Below Aver
ggplot(data,mapping=aes(x=lead_timeCategories,fill=is_canceled))+geom_bar(position="dodge")+ ggti
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(axis.text.x = element_text(angle
```




```
ggplot(data=data,mapping=aes(x=required_car_parking_spaces,fill=is_canceled))+geom_bar(position="
labs(fill = "Cancellation Status")+ ggtitle("Cancelation Status by Required Parking Spaces")+
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
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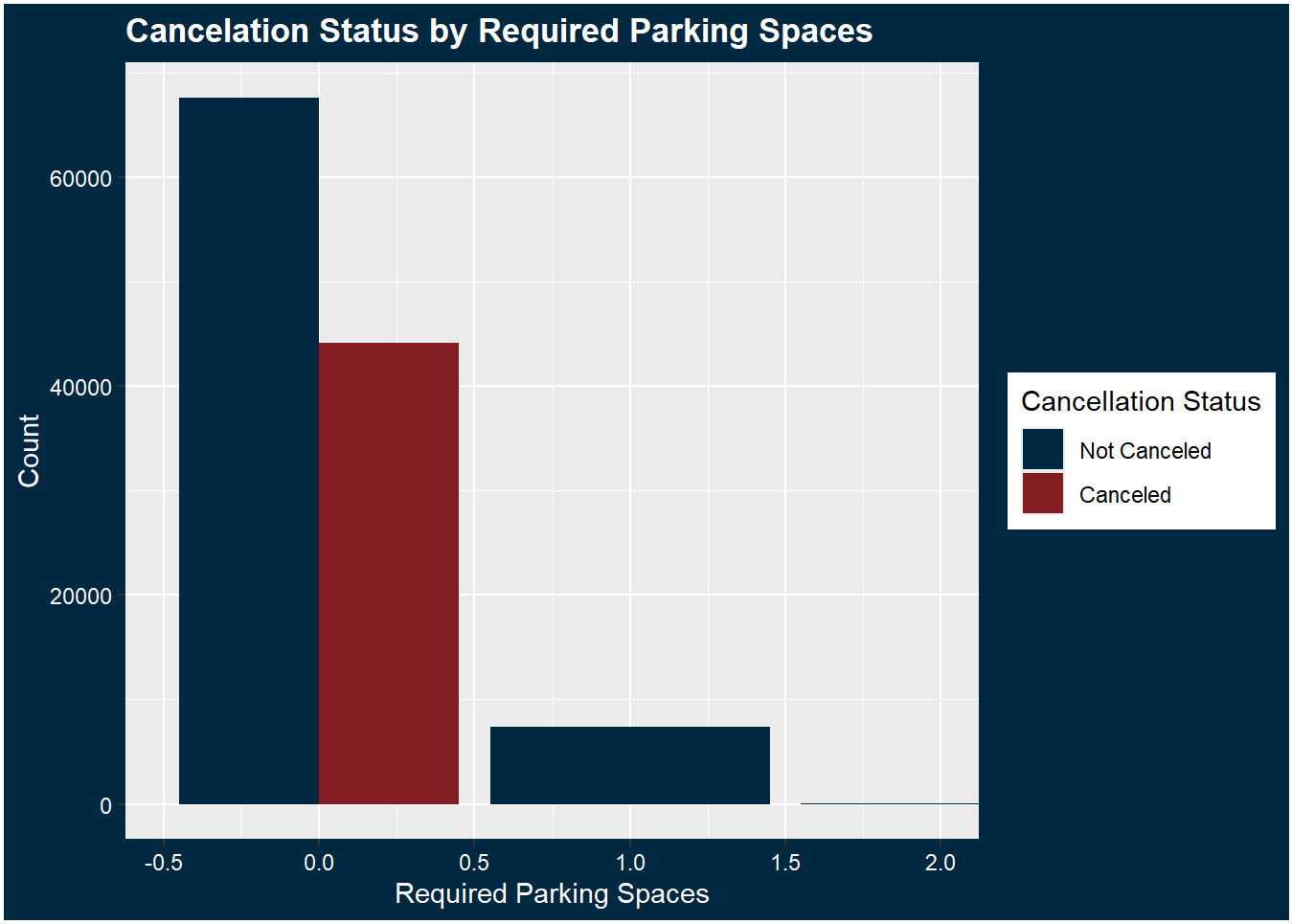
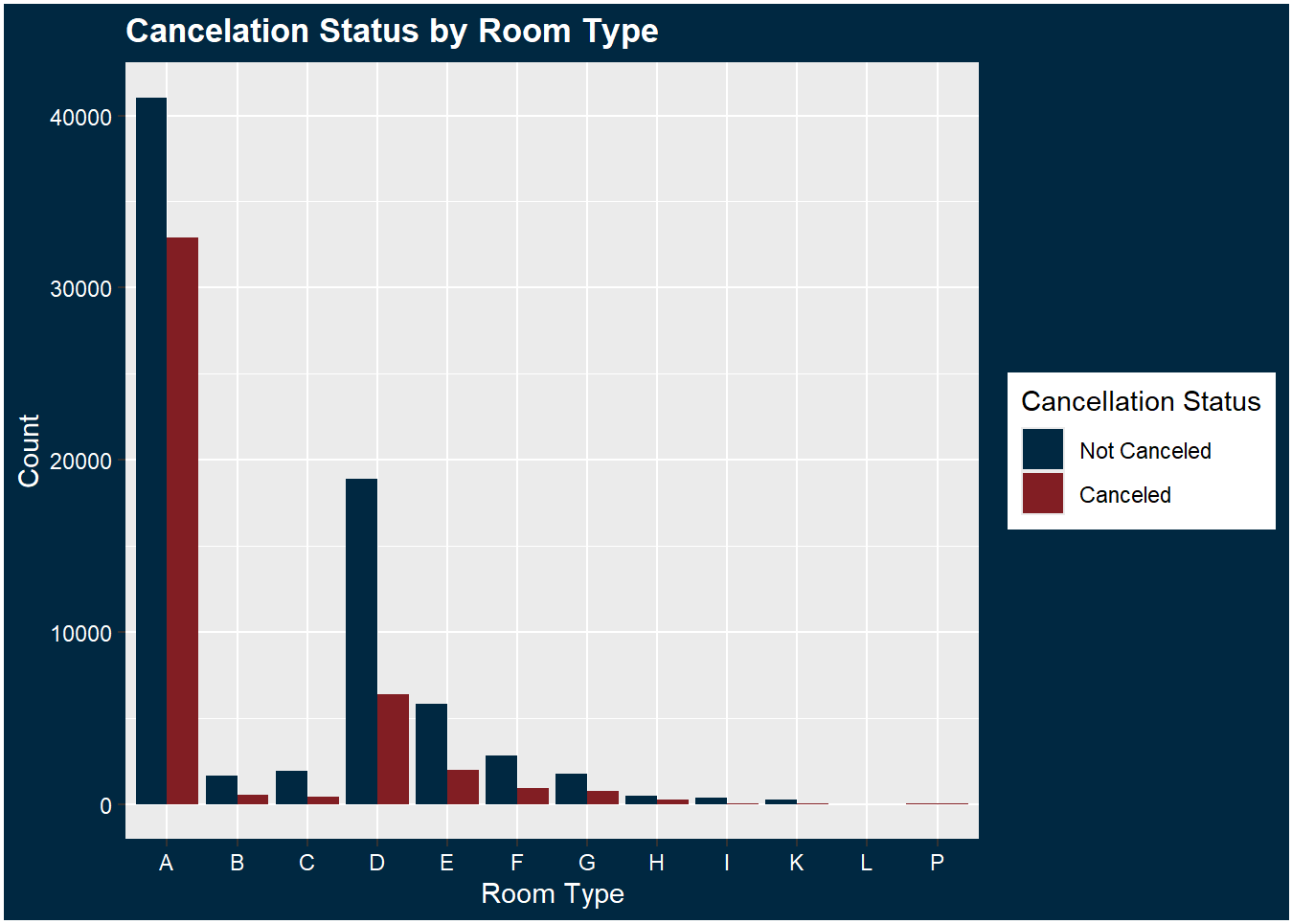
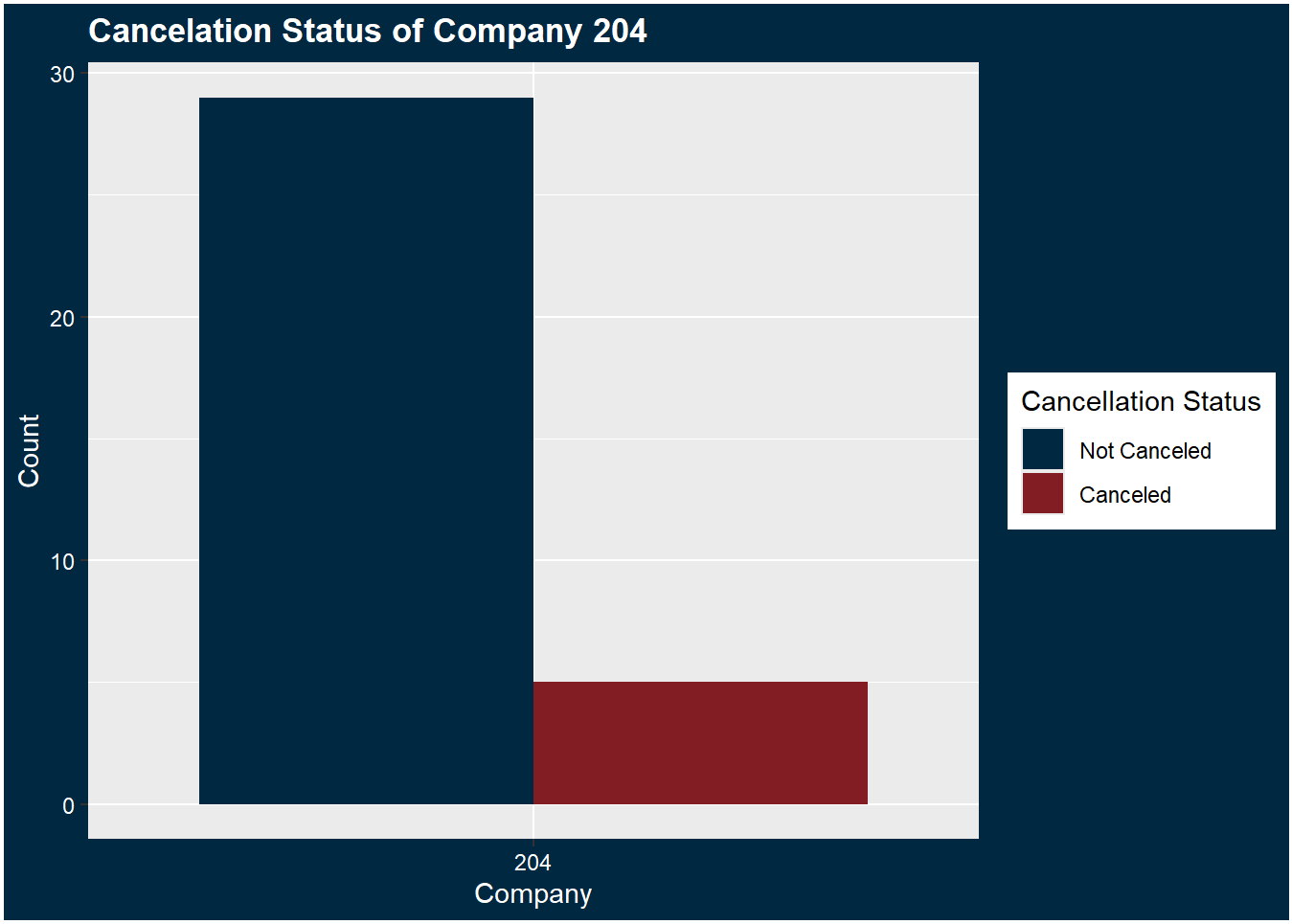


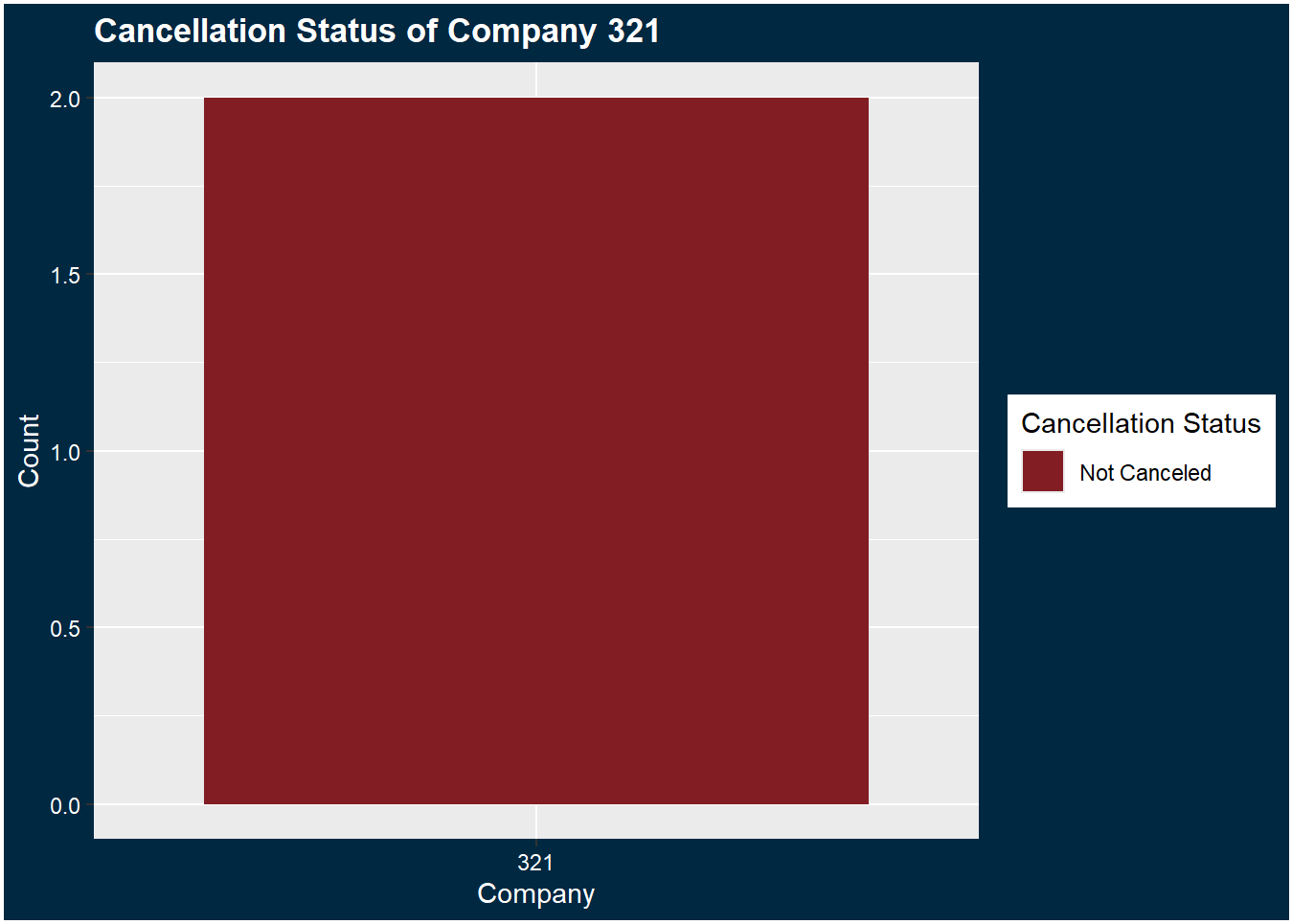

```
ggplot(data=data,mapping=aes(x=assigned_room_type,fill=is_canceled))+geom_bar(position="dodge")+ 
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
```




```
company204=data[data$company==204,]
ggplot(data=company204,mapping=aes(x=company,fill=is_canceled))+geom_bar(position="dodge")+ xlab(
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
```




```
company321=data[data$company==321,]
ggplot(data=company321,mapping=aes(x=company,fill=is_canceled))+geom_bar(position="dodge")+ xlab(
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
```




```
roomtypeI=data[data$assigned_room_type=="I",]
ggplot(data=roomtypeI,mapping=aes(x=assigned_room_type,fill=is_canceled))+geom_bar(position="dodg
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
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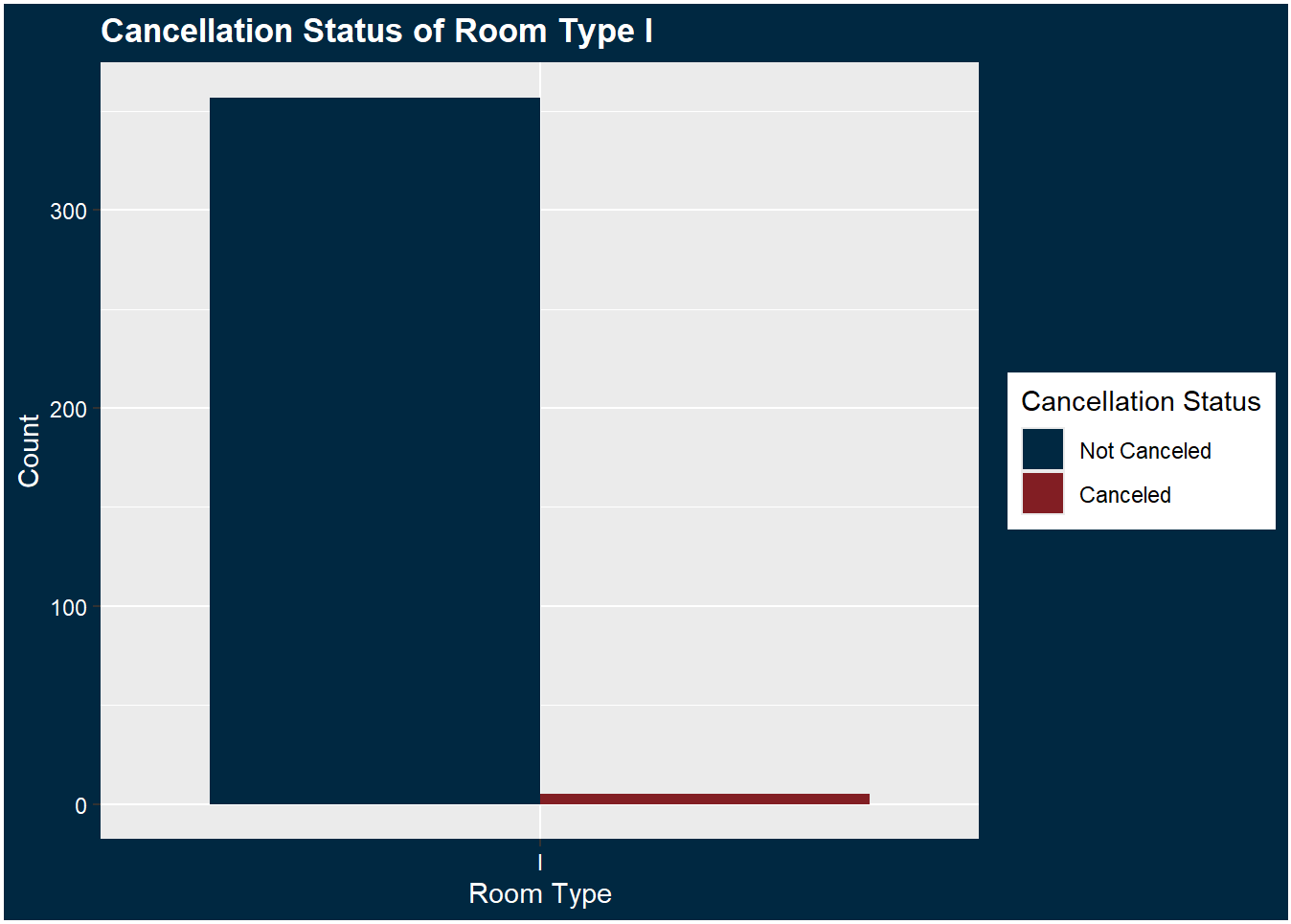
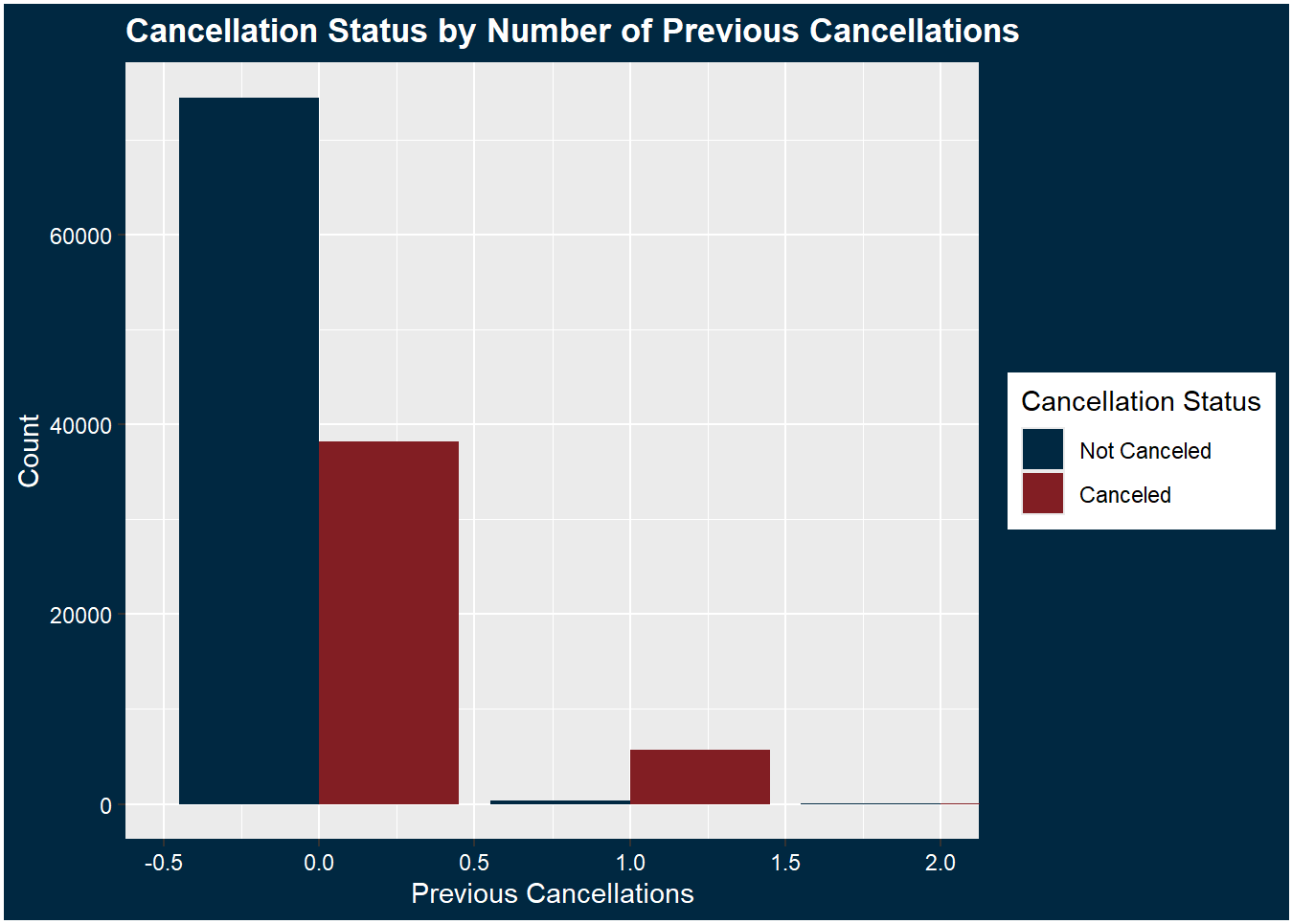
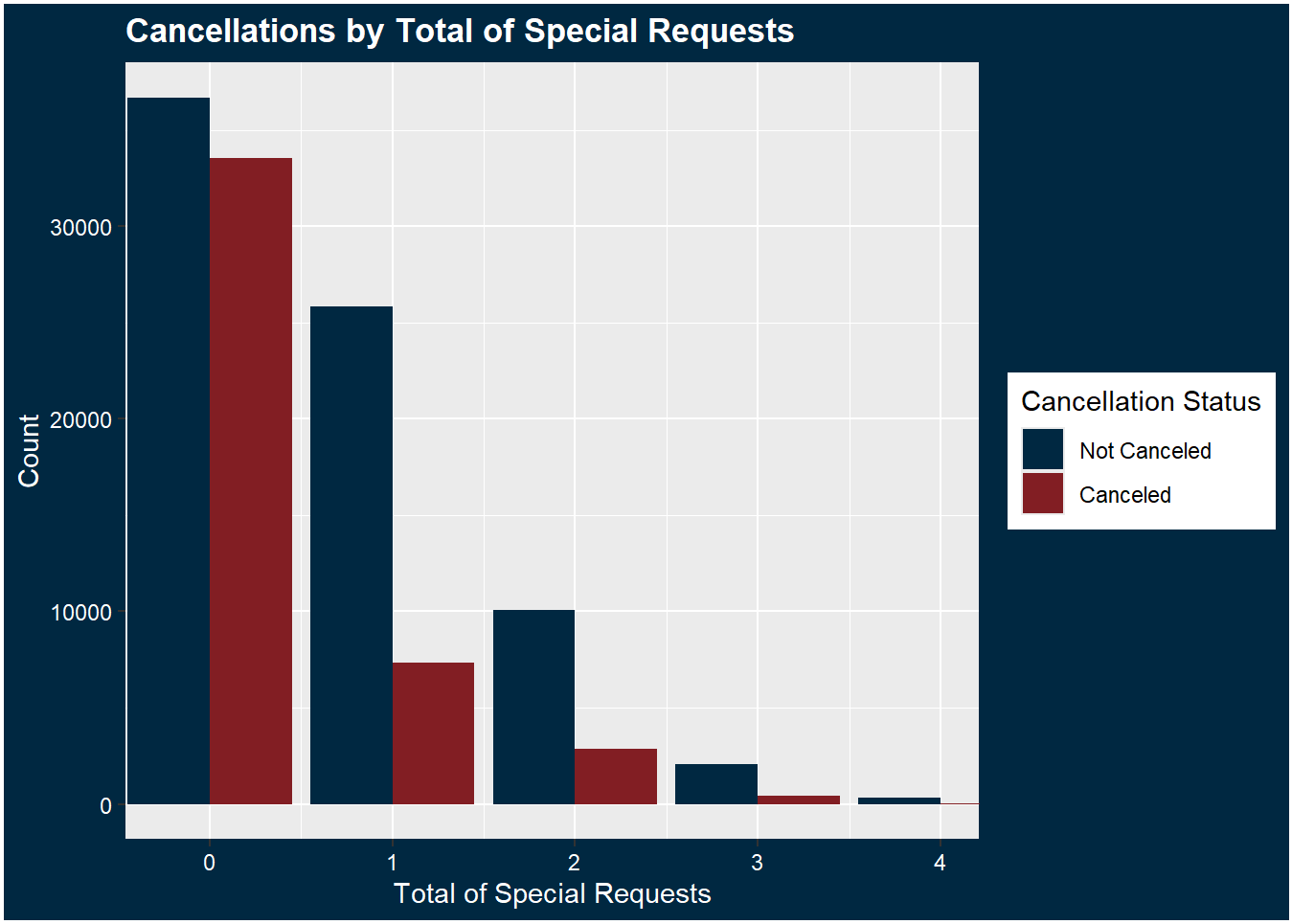


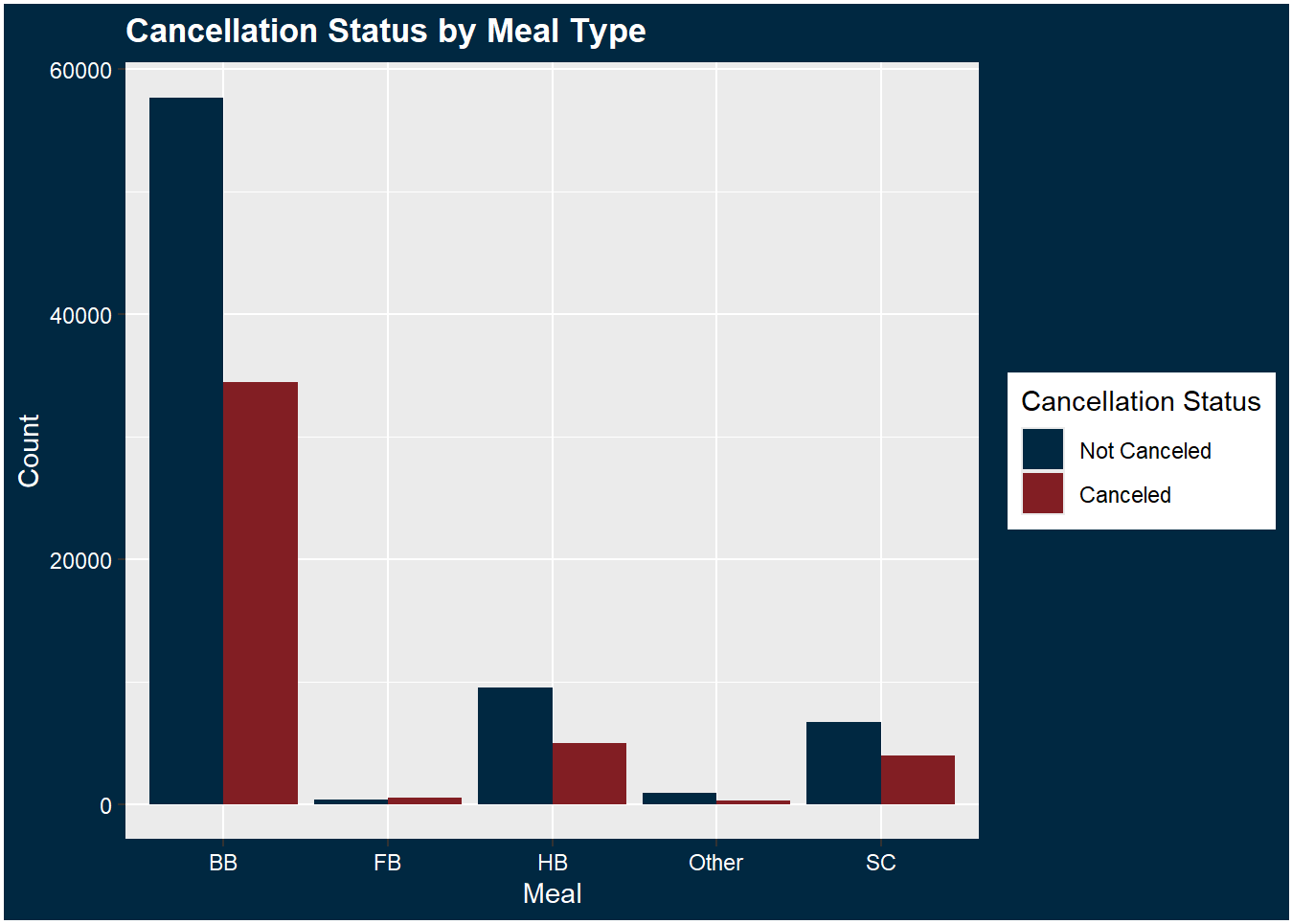

```
ggplot(data=data,mapping=aes(x=previous_cancellations,fill=is_canceled))+geom_bar(position="dodge
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
```



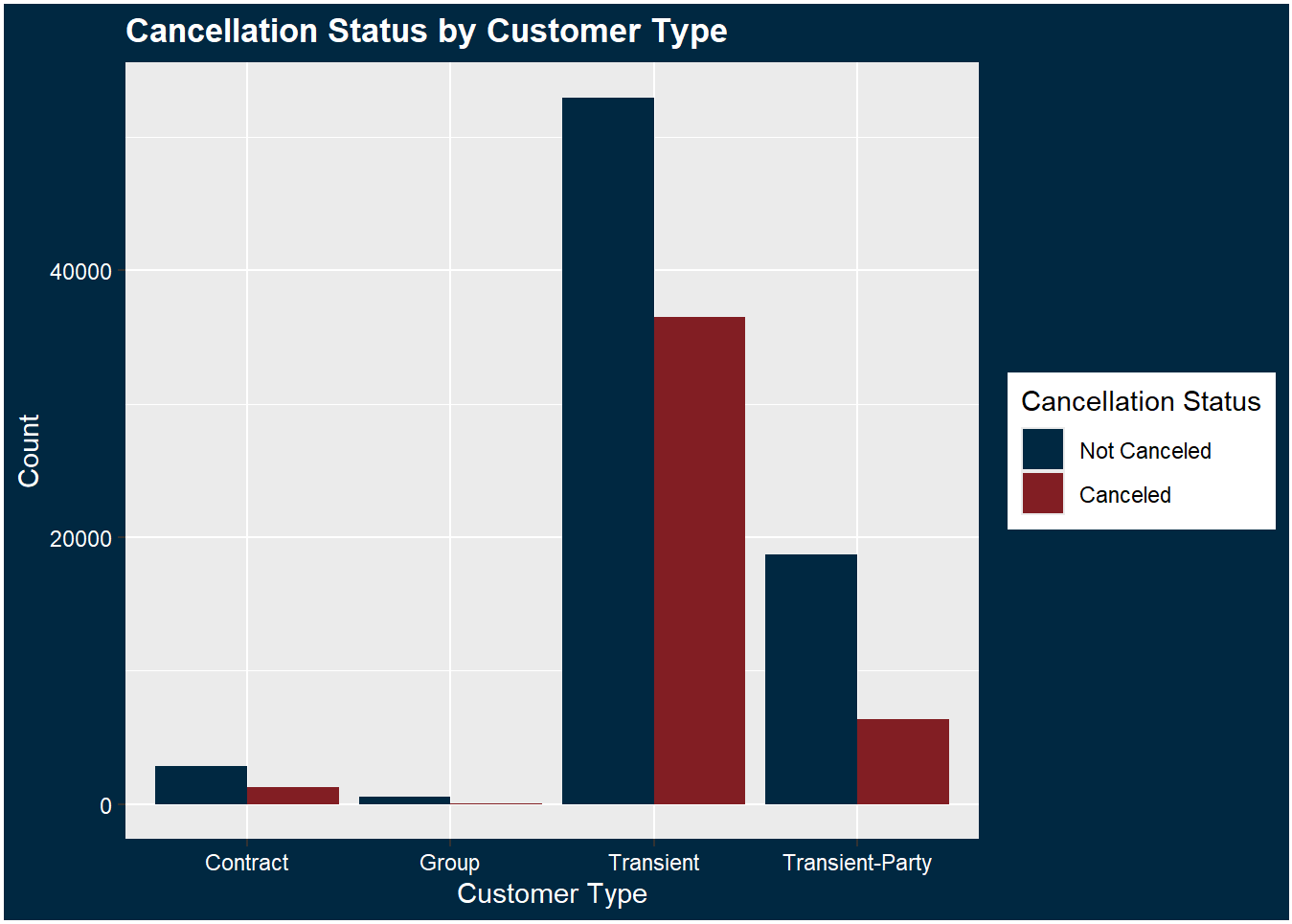

```
ggplot(data=data,mapping=aes(x=total_of_special_requests,fill=is_canceled))+geom_bar(position="do
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
```




```
ggplot(data=data,mapping=aes(x=meal,fill=is_canceled))+geom_bar(position="dodge")+ xlab("Meal")+ y
labs(fill = "Cancellation Status")+ggtitle("Cancellation Status by Meal Type")+
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
```

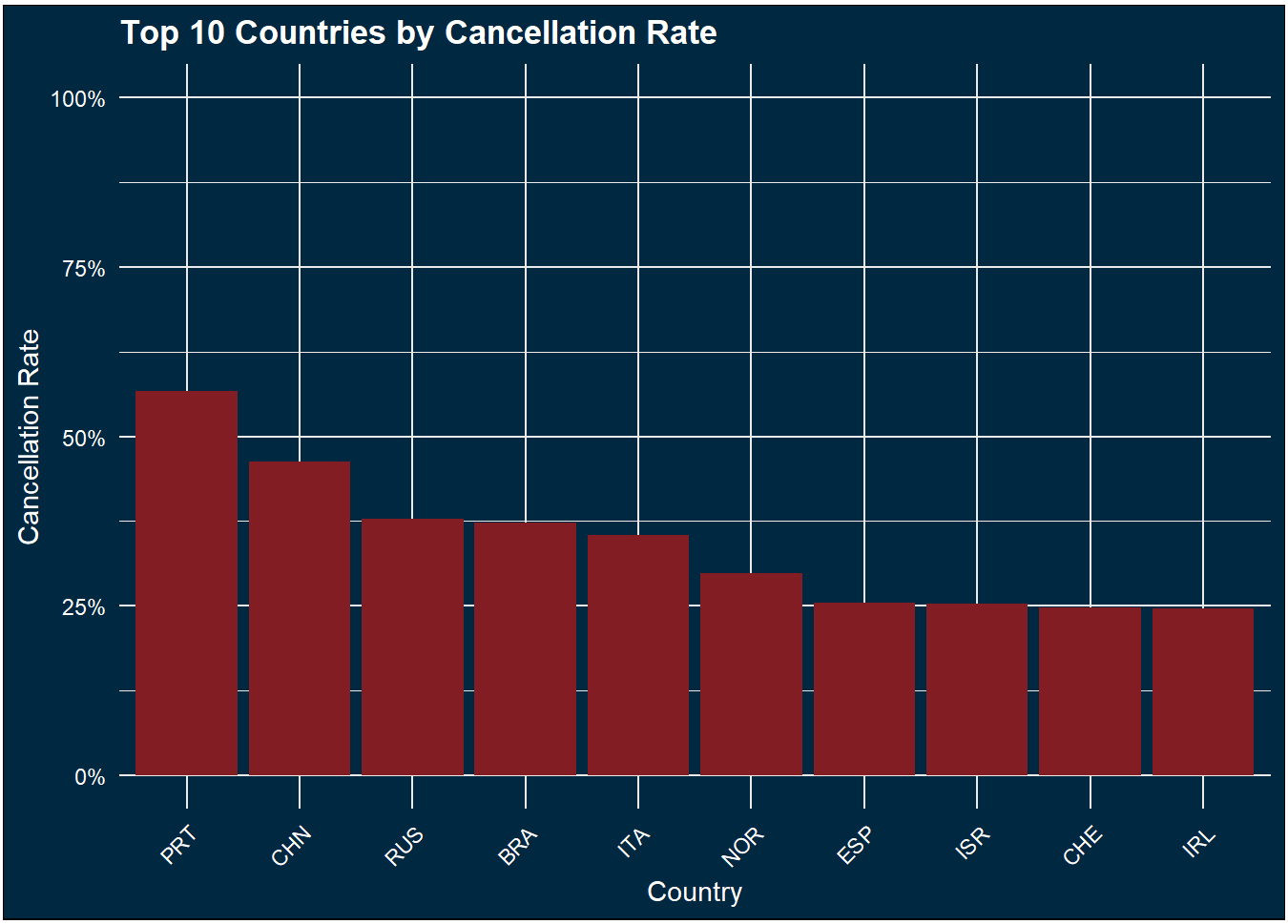



```
ggplot(data=data,mapping=aes(x=customer_type,fill=is_canceled))+geom_bar(position="dodge")+ xlab(
  scale_fill_manual(values = c("0" = "#002845", "1" = "#841F27"),labels=c("Not Canceled","Cancele
  guides(fill=guide_legend(title="Cancellation Status"))+ theme(plot.background = element_rect(fi
```




```
country=data%>%group_by(country)%>%summarize(total=n(),cancellation_rate=sum(is_canceled==1)/tota

ggplot(country, aes(x = reorder(country, -cancellation_rate), y = cancellation_rate)) +
  geom_col(fill = "#841F27") +
    ggtitle("Top 10 Countries by Cancellation Rate")+
    xlab("Country")+
    ylab("Cancellation Rate")+
  scale_y_continuous(labels = scales::percent,limits = c(0, 1)) + # Show y-axis as percentages
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))+ theme(plot.background = element_rect(
```


Top 10 Countries by Cancellation Rate
100%
75%
50%
25%
0%
Cancellation Rate
PRT
CHN
RUS
BRA
ITA
NOR
ESP
ISR
CHE
IRL
Country