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middle <- read.csv("middle.csv", stringsAsFactors = F)
str(middle$date)
middle$date <- as.Date(middle$date)
middle$day <- weekdays(middle$date)
library(dplyr)
middle <- middle %>% relocate(day, .after = date)
table(is.na(middle$rainfall))
table(is.na(middle$customer))
middle %>% filter(time>=30 & claim>=30 & error>=10)
middle %>% filter(claim==0 & error==0) %>% summarise(count=n())
middle2 <- middle %>% filter(day=="월요일" | day=="수요일")
hist(middle$revenue, breaks = seq(0, 2600, by=50))
middle3 <- middle %>% filter(day %in% c("월요일", "화요일", "수요일", "목요일", "금요일")) %>% filter(type=="휴일")
mean(middle3$customer)
middle %>% filter(day=="토요일" | day=="일요일") %>% summarise(mean(customer, na.rm=T))
middle %>% filter(day %in% c("월요일", "화요일", "수요일", "목요일", "금요일")) %>% filter(type=="평일") %>% summarise(mean(customer, na.rm=T))
middle$time <- ifelse(middle$time==0, NA, middle$time)
mean(middle$time, na.rm=T)
round(mean(middle$time, na.rm=T), digits = 2)
middle %>% filter(day=="월요일") %>% filter(event==1) %>% summarise(mean(revenue))
middle %>% filter(day=="월요일") %>% filter(event==0) %>% summarise(mean(revenue))
middle <- middle %>% mutate(satis=ifelse(satisfaction<4.0, "매우 불만족", ifelse(satisfaction<4.3, "불만족", ifelse(satisfaction<4.5, "보통", ifelse(satisfaction<4.7, "만족", "매우 만족")))))
table(middle$satis)
middle %>% group_by(satis) %>% summarise(mean_claim=mean(claim)) %>% arrange(mean_claim)
middle <- middle %>% mutate(problem=time+claim+error)
table(is.na(middle$problem))
middle$problem <- ifelse(is.na(middle$problem), 36.56, middle$problem)
mean(middle$problem, na.rm = T)
round(mean(middle$problem, na.rm = T), digits = 2)
middle %>% select(revenue1, problem) %>% summarise(rate=(problem/revenue1)*100) %>% summarise(mean(rate))
round( 0.002180180, digits = 4)
middle %>% filter(!is.na(rainfall) & type=="평일") %>% summarise(mean(revenue4))

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middle %>% filter(!is.na(rainfall) & type=="휴일") %>% summarise(mean(revenue4))
middle4 <- middle %>% group_by(day, type, event, satis) %>% summarise(count=n())
middle %>% filter(!is.na(customer)) %>% filter((problem/customer)*100 >=10) %>%
summarise(mean(satisfaction))
round(4.54, digits = 2)
```