

Exercise 5

Your Name

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```
weather <- read.csv("ozone.csv")
```

- Plot Ozone versus Solar Radiation, Wind Speed and Temperature on separate graphs
– save the plot to a pdf file

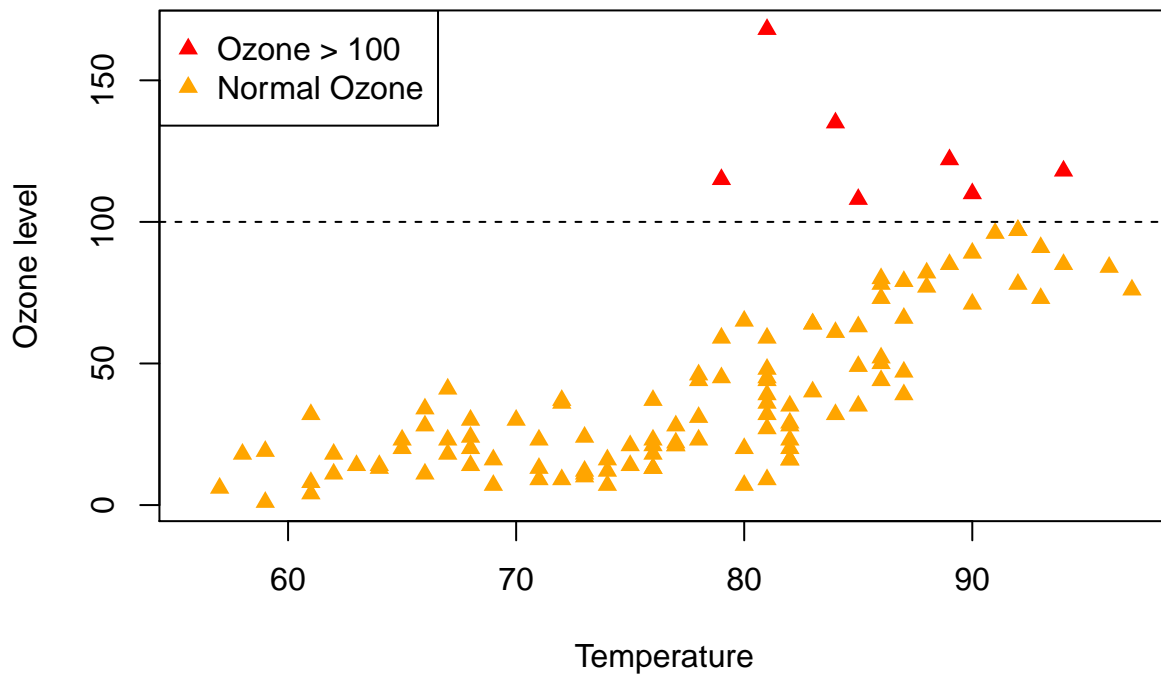
```
pdf("ozoneCorrelations.pdf")
par(mfrow=c(1,3))
plot(weather$Solar.R, weather$Ozone, pch=16,
      col="lightgreen", ylab="Ozone level",
      xlab="Solar Radiation")
plot(weather$Wind, weather$Ozone, pch=15,
      col="steelblue", ylab="Ozone level",
      xlab="Wind Speed")
plot(weather$Temp, weather$Ozone, pch=17,
      col="orange", ylab="Ozone level",
      xlab="Temperature")
dev.off()
```

```
## pdf
## 2
```

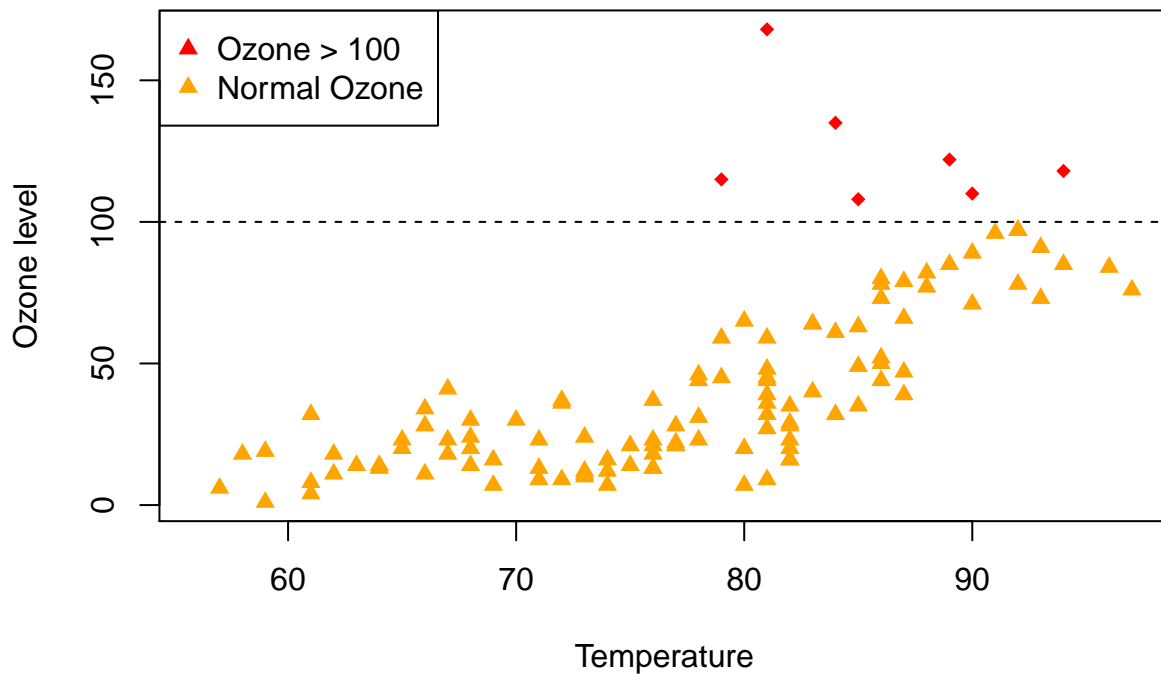
- Repeat the plot of Ozone versus Temperature and use a different colour to highlight any points with Ozone level > 100

```
high0 <- which(weather$Ozone > 100)
low0 <- which(weather$Ozone < 100)

plot(weather$Temp, weather$Ozone, type="n",
      ylab="Ozone level",
      xlab="Temperature")
points(weather$Temp[high0], weather$Ozone[high0],
       col="red", pch=17)
points(weather$Temp[low0], weather$Ozone[low0],
       col="orange", pch=17)
abline(h=100, lty=2)
legend("topleft", legend = c("Ozone > 100", "Normal Ozone"), col=c("red", "orange"), pch=17)
```



```
mycol <- rep("orange", nrow(weather))
high0 <- which(weather$Ozone > 100)
mycol[high0] <- "red"
mypch <- rep(17, nrow(weather))
mypch[high0] <- 18
plot(weather$Temp, weather$Ozone,
      col=mycol, pch=mypch, ylab="Ozone level",
      xlab="Temperature")
abline(h=100, lty=2)
legend("topleft", legend = c("Ozone > 100", "Normal Ozone"), col=c("red", "orange"), pch=17)
```



Defining a variable for the cut-off makes our code a bit more flexible

```
mycol <- rep("orange", nrow(weather))
cutoff <- 100
high0 <- which(weather$Ozone > cutoff)
mycol[high0] <- "red"
mypch <- rep(17, nrow(weather))
mypch[high0] <- 18
plot(weather$Temp, weather$Ozone,
      col=mycol, pch=mypch, ylab="Ozone level",
      xlab="Temperature")
abline(h=cutoff, lty=2)
legend("topleft", legend = c("Ozone > 100", "Normal Ozone"), col=c("red", "orange"), pch=17)
```

