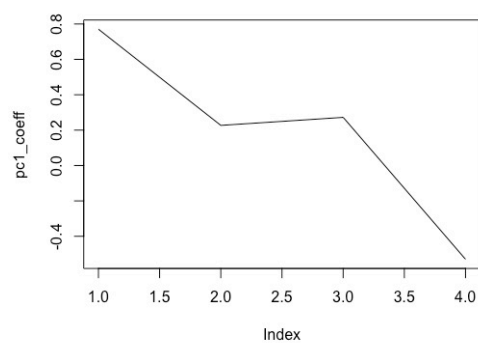HW7:

1.

```
> setwd("/Users/sean/Desktop/Stevens/627_Data Acquisition/homework/hw")
> Data = read.csv("EE627A_HW1_Data.csv")
> Data = Data[1:948, c(2:4,6)]
> d2cov = cov(Data)
> deig = eigen(d2cov)
> v1 <- sum(deig$values[1])/sum(deig$values)
> v2 <- sum(deig$values[1:2])/sum(deig$values)
> v1
[1] 0.514017
> v2
[1] 0.7521042
>
```

As code shows, it needs 2 PCs.

2.

```
M = scale(Data)
mypca <- prcomp(Data)
pc1_coeff <- mypca$rotation[,1]
pc2_coeff <- mypca$rotation[,2]
plot(pc1_coeff, type = "line")
plot(pc2_coeff, type = "line")
```

PC1.   PC2