MicroProject

12/03/2019

```
1. library(expm)
2.
3. q <- matrix(nrow=2,ncol=2, c(-3,3,5,-5),byrow=TRUE)
4. t <- seq(0,1,by=.001)
5. P <- array(rep(0, length(t)*2*2), dim=c(length(t), 2, 2))
6. for (i in 1:length(t)){
7.   P[i, ,] <- expm(q*t[i])
8. }
9.
10.      plot(t,P[,1,1],"l",col="blue",xlab="Time", ylab="P(t)",
11.           lwd=2,xlim=range(0,1),ylim=range(0,1))
12.      lines(t,P[,1,2],"l",col="blue",xlab="Time",
13.           ylab="P(t)",lwd=2)
14.      lines(t,P[,2,1],"l",col="red",xlab="Time",
15.           ylab="P(t)",lwd=2)
16.      lines(t,P[,2,2],"l",col="red",xlab="Time",
17.           ylab="P(t)",lwd=2)
18.      grid(col = "gray", lty = "dotted",equilogs = TRUE)
```

PLOT: