GGPlot

Team 9

9/28/2017

Create a data frame

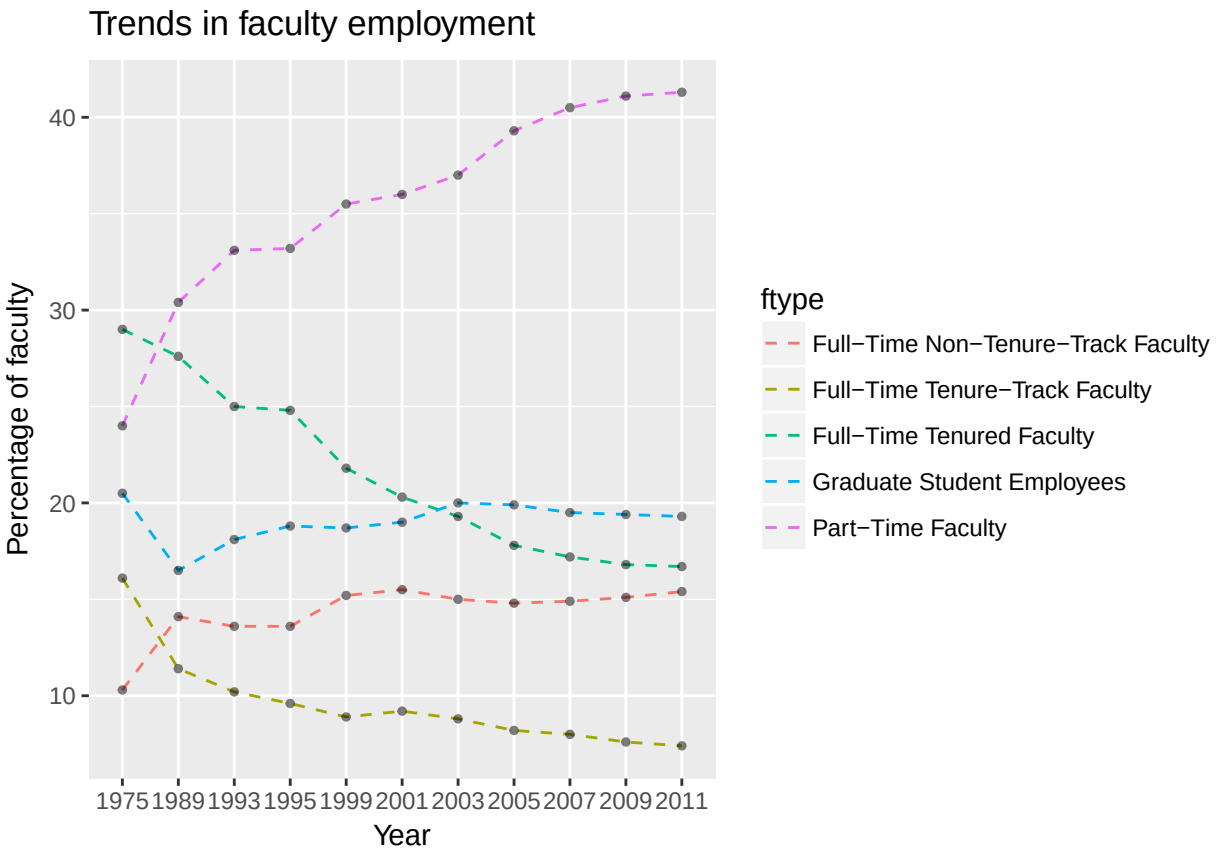
```
colnames(homework3)[1]="Faculty type"
FacultyPercent <-matrix(nrow=55,ncol=3,data=NA)
FacultyPercent[,1]<-rep(homework3$`Faculty type`,11)
FacultyPercent[,2]<-c(sapply(colnames(homework3)[-1],function(x) {rep(x,5)}))
FacultyPercent[,3] <- c(sapply(homework3[,-1],print))
```

```
## [1] 29.0 16.1 10.3 24.0 20.5
## [1] 27.6 11.4 14.1 30.4 16.5
## [1] 25.0 10.2 13.6 33.1 18.1
## [1] 24.8  9.6 13.6 33.2 18.8
## [1] 21.8  8.9 15.2 35.5 18.7
## [1] 20.3  9.2 15.5 36.0 19.0
## [1] 19.3  8.8 15.0 37.0 20.0
## [1] 17.8  8.2 14.8 39.3 19.9
## [1] 17.2  8.0 14.9 40.5 19.5
## [1] 16.8  7.6 15.1 41.1 19.4
## [1] 16.7  7.4 15.4 41.3 19.3
```

```
FacultyPercent<-as.data.frame(FacultyPercent)
colnames(FacultyPercent)=c("ftype","year","percent")
FacultyPercent$percent=as.double(as.character(FacultyPercent$percent))
```

Drawing Plots

```
ggplot(FacultyPercent,aes(x=year,y=percent))+
  geom_line(aes(x=year,y=percent,group=ftype,color=ftype), linetype="dashed")+
  geom_point(size=1, alpha=0.5)+
  ggtitle("Trends in faculty employment")+
  xlab('Year') +ylab('Percentage of faculty')
```


Trends in faculty employment
Percentage of faculty
40
30
20
10
1975
1989
1993
1995
1999
2001
2003
2005
2007
2009
2011
Year
ftype
Full−Time Non−Tenure−Track Faculty
Full−Time Tenure−Track Faculty
Full−Time Tenured Faculty
Graduate Student Employees
Part−Time Faculty