

Working with R lists and and vectors

Initial abilities vector and vector of adjustments

Start with a vector of standard normal random variables:

```
dscore<-function(a,b,c,D,theta){  
  p=c+(1-c)*exp(D*a*(theta-b))/(1+exp(D*a*(theta-b)))  
  return(rbinom(length(p),1,p))  
}
```

Data frame for parameters:

```
a=c(0.6,0.5,0.4)  
b=c(1.0, 0.8,1.2)  
c=c(0.5, 0.7, 0.8)  
D=rep(1.701,3)  
df1=data.frame(a,b,c,D)  
str(df1)  
  
## 'data.frame': 3 obs. of 4 variables:  
## $ a: num 0.6 0.5 0.4  
## $ b: num 1 0.8 1.2  
## $ c: num 0.5 0.7 0.8  
## $ D: num 1.7 1.7 1.7  
  
nrow(df1)  
  
## [1] 3
```

Ability parameters

```
theta=rnorm(10)
```

Compute scores

```
scores=rep(0,length(theta))  
for (i in 1:nrow(df1)){  
  scores=scores+dscore(df1$a[[i]],df1$b[[i]],df1$c[[i]],df1$D[[i]],theta)  
}  
print(scores)  
  
## [1] 3 1 3 3 2 2 3 2 1 3
```