

Appendix A: R commands

Creating a full factorial design:

```
set.seed (1000000)

options (contrasts=c("contr.sum", "contr.poly"))

Fullfact<-gen.factorial (c(5,3,3,3,3,3,2) ,varNames=
c("Age","Gender","Severity","Gain",
"Number","Prognosis","SES"),center=FALSE,factors="all")
```

Creating a balanced incomplete block design consisting of 122 blocks with 20 scenarios each:

```
Block<-optBlock(withinData=Fullfact,blocksizes=rep(20,122),nRepeats=50000)
```

Evaluating the resulting blocked design:

```
Block(1:3)

eval.blockdesign(~.,Block$design,rep(20,122))
```