

```
1   ###Conjoint Card作成###
2   install.packages("conjoint",dependencies = T)
3   library(conjoint)
4   #expand.grid:属性と水準の指定(例:4属性,水準数は2,2,2,4)
5   plan <- expand.grid(
6     type <- c("Sedan","OneBox"),
7     Engine <- c("1500cc","2000cc"),
8     Drive <- c("4WD","2WD"),
9     Price <- c("150万円","250万円","350万円","450万円"))
10  #caFactorialDesign:完全あるいは部分factorial designを返す
11  #Usage:caFactorialDesign(data, type="null", cards=NA, seed=123)
12  #type= "full", "fractional", "ca", "aca", "orthogonal"
13  #"full":full factorial design
14  #ca:水準数の合計-属性数+1,aca:3x(水準数の合計-属性数+1)-水準数の合計
15  #"fractional",cards=4:card枚数指定
16  d.full<-caFactorialDesign(data = plan,type = "full")
17  print(d.full)
18  round(cor(caEncodedDesign(d.full)),3)
19  #直交表
20  d.orth<-caFactorialDesign(data = plan,type = "orthogonal")
21  print(d.orth)
22  round(cor(caEncodedDesign(d.orth)),3)
23  #ca:seedを設定しないとdefault,seed=123
24  d.ca<-caFactorialDesign(data = plan,type = "ca" , seed=13)
25  print(d.ca)
26  round(cor(caEncodedDesign(d.ca)),3)
27  #aca:seedを設定しないとdefault,seed=123
28  d.aca<-caFactorialDesign(data = plan,type = "aca" , seed=13)
29  print(d.aca)
30  round(cor(caEncodedDesign(d.aca)),3)
31  #fractional,cards=4:seedを設定しないとdefault,seed=123
32  d.ca<-caFactorialDesign(data = plan,type = "fractional" , cards=7 ,
33  seed=18)
34  print(d.ca)
35  round(cor(caEncodedDesign(d.ca)),3)
36  ###その他のCard作成関数###
37  ##AlgDesign関数
38  install.packages("AlgDesign",dependencies = T)
39  library(AlgDesign)
40  library(conjoint)
41  plan2 <- gen.factorial(c(2,2,2,4),
42  varNames=c("Type","Engine","Drive","Price"),
43  factors="all")
44  plan2
45  runif(1)
46  plan8 <- optFederov(~.,plan2,8)
47  plan8$design
48  caEncodedDesign(plan8$design)
49  round(cor(caEncodedDesign(plan8$design)),3)
50  ##DoE.base関数
51  install.packages("DoE.base",dependencies = T)
52  library(DoE.base)
53  Type <- c("Sedan","OneBox")
54  Engine <- c("1500cc","2000cc")
55  Drive <- c("4WD","2WD")
56  Price <- c("150万円","250万円","350万円","450万円")
57  plan.3 <- oa.design(
58  factor.names=list(Type = Type,
59  Engine = Engine,
```

```
60             Price = Price),  
61             seed=1);  
62 print(plan.3)  
63 code <- caEncodedDesign(plan.3)  
64 print(code)  
65 print(cor(code))  
66  
67
```