

```
1  ###数量化Ⅲ類:ダミー変数(0-1型データ)
2  #アイテムへの反応がすべて1あるいは0というサンプルは除外
3  library(FactoMineR)
4  data(hobbies) #data in FactoMineR
5  str(hobbies)
6  colnames(hobbies)
7  ?hobbies
8
9  ###欠測値処理
10 anyNA(hobbies[,c(1:17)]) #返回值TRUEでNAあり
11
12 #MCA関数:dataはfactor型
13 sapply(hobbies[,c(1:17,19)] , class) #data型確認
14 library(MASS)
15 out.3 <- MCA(hobbies[,c(1:17,19)])
16 names(out.3)
17 out.3$eig
18 out.3$var
19 out.3$svd
20 summary(out.3)
21 plot(out.3,invisible=c("ind"),hab="quali")
22 plot(out.3,invisible=c("var"),cex=.5,label="none")
23 plotellipses(out.3,keepvar=c(1,3,18))
24
25 ###corresp関数:dataはnumeric型
26 sapply(hobbies[,c(1:18)] , class) #data型確認
27 d.3rui <- as.data.frame(lapply(hobbies[,c(1:18)],
28                               as.numeric)) #numericに変換
29 sapply(d.3rui , class) #data型確認
30 library(MASS)
31 out.3rui <- corresp(d.3rui[,c(1:17)] , nf=3)
32 names(out.3rui)
33 out.3rui$cor
34 out.3rui$cscore
35 #print(out.3rui)
36 out.3rui.eig <- out.3rui$cor
37 out.3rui.eig
38 kiyo <- round(100*out.3rui.eig / sum(out.3rui.eig),3)
39 round(kiyo,1)
40 biplot(out.3rui)
41 abline(v=0,lty=3);abline(h=0,lty=3)
42
43 ###ca関数:dataはnumeric型
44 library(ca)
45 fit.3rui <- ca(d.3rui[,c(1:17)] , 3)
46 names(fit.3rui)
47 fit.3rui$colcoord
48 #print(fit.3rui) # basic results
49 library(factoextra)
50 library(ggplot2)
51 fviz_ca_col(fit.3rui, axes = c(1,2),
52             geom = c("point", "text"),
53             label = "all", invisible = "none",
54             repel = T,title = "Item plot")+
55   theme_bw(base_size = 15) +
56   xlim(-0.25, 0.25) + ylim (-0.25, 0.25)
57
58
```