

```
1  ###数量化Ⅲ類:多重対応分析 数量化Ⅲ類:アイテムカテゴリーデータ
2  #dataの読込:data(tea), (hobbies)
3  library(FactoMineR)
4  data(tea) #data in FactoMineR
5  str(tea)
6  names(tea)
7  ?tea
8  sapply(tea , class)
9  #Tea(black,green,Earl Gray),How(alone,lemon,milk),sugar(No.sugar,sugar)
10 #how(tea bag,tea bag+unpacked,unpacked),
11 #where(chain store,chain store+tea store,tea store),sex(F , M)
12 data(hobbies) #data in FactoMineR
13 str(hobbies)
14 names(hobbies)
15 ?hobbies
16 sapply(hobbies , class)
17 ###MCA関数
18 #data(tea)
19 library(FactoMineR)
20 out.1 <- MCA(tea[,c(13:17,20)])
21 #out.2 <- MCA(tea,quanti.sup=19,quali.sup=20:36)
22 out.1
23 summary(out.1)
24 plot(out.1,invisible=c("ind"),hab="quali")
25 plot(out.1,invisible=c("var"),cex=.5,label="none")
26 plotellipses(out.1,keepvar=c("Tea","sugar","how" , "sex"))
27
28 ###mca関数
29 library(MASS)
30 out.4 <- mca(tea[,c(13:17,20)] , nf = 3 , abbrev = T)#
31 out.4
32 names(out.4)
33 plot(out.4)
34 abline(v=0,lty=3);abline(h=0,lty=3)
35 out.4$cs
36 plot(out.4$cs)
37 abline(v=0,lty=3);abline(h=0,lty=3)
38 head(out.4$rs)
39 biplot(out.4$rs,out.4$cs, var.axes = F)
40 abline(v=0,lty=3);abline(h=0,lty=3)
41
42 ###mjca関数
43 library(ca)
44 out.6 <- mjca(tea[,c(13:17,20)], lambda = "indicator", nd = 3)
45 out.6
46 names(out.6)
47 plot(out.6,arrows = c(F,T))
48 plot(out.6, dim = c(1, 2), map = "symmetric",
49       what = c("all", "all"),arrows = c(F,T))
50
51 plot(out.6, mass = TRUE , contrib = "absolute",
52       map = "rowgreen",arrows = c(F, T))
53
54
```