

## Caption

This is the article experiment source code; The experimental data are from the website, see the detailed description of the experimental section of the paper; Adopt R language programming environment.

```
#####  
install.packages("SELF")  
library(SELF)  
library(psych)  
data <- read.csv("C:/Users/Administrator/Desktop/diabetes/diabetes1.csv") #input 768 dataset that  
has been preprocessed.  
data2<- read.csv("C:/Users/Administrator/Desktop/diabetes/diabetes1.csv") #input 2000 dataset  
that has been preprocessed.  
ldata <- read.csv("C:/Users/Administrator/Desktop/diabetes/diabetes1.csv")  
2data <- read.csv("C:/Users/Administrator/Desktop/diabetes/diabetes2.csv")  
class(data)  
head(data)  
class(data2)  
head(data2)  
#####M=768 dataset  
D <- data[-1,]  
P <- D[,1]  
G <- D[,2]  
B <- D[,3]  
S <- D[,4]  
I <- D[,5]  
B1 <- D[,6]  
A <- D[,7]  
D1 <- D[,8]  
#####M=2000 dataset  
D2 <- data2[-1,]  
P1 <- D2[,1]  
G1 <- D2[,2]  
B2 <- D2[,3]  
S1 <- D2[,4]  
I1 <- D2[,5]  
B3 <- D2[,6]  
A1 <- D2[,7]  
D3 <- D2[,8]  
#####Scatter plos, bar charts and correlation coefficients  
pairs.panels(ldata[,1:8],lm=FALSE)  
pairs.panels(2data[,1:8],lm=FALSE)  
##### FCL-based Casual discovery  
data1 <- data.frame(P,G,B,S,I,B1,A,D1)  
data3 <- data.frame(P1,G1,B2,S1,I1,B3,A1,D3)
```

```
fhc(data1,booster = "lm",score_type = "bic") # casual discovery of M=768 dataset
fhc(data3,booster = "lm",score_type = "bic")# casual discovery of M=2000 dataset
# IFCL-based Casual discovery
require(stats)
trace("fhc",edit = TRUE) #insert the the threshold to improve the casual discovery method
fhc(data1,booster = "lm",score_type = "bic") # the improved casual discovery of M=768 dataset
fhc(data3,booster = "lm",score_type = "bic")# the improved casual discovery of M=2000 dataset
```