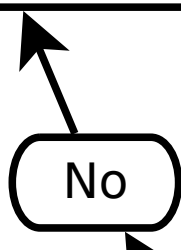
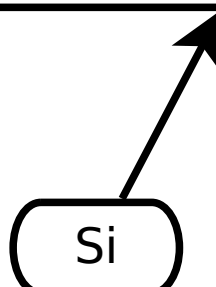


Datos binomiales
Datos geométricos
Datos hipergeométricos
Datos Binom Negat
Datos de Poisson
Datos Beta
Datos exponenciales
Datos Chi-Cuadrado
Datos Gamma
Datos logísticos

s rbinom()
os rgeom()
ricos rhyper()
tiva rnbinom()
on rpois()
rbeta()
cial rexp()
da rchisqrt()
rgamma()
s rlogis()



rnorm(n,media,sd)

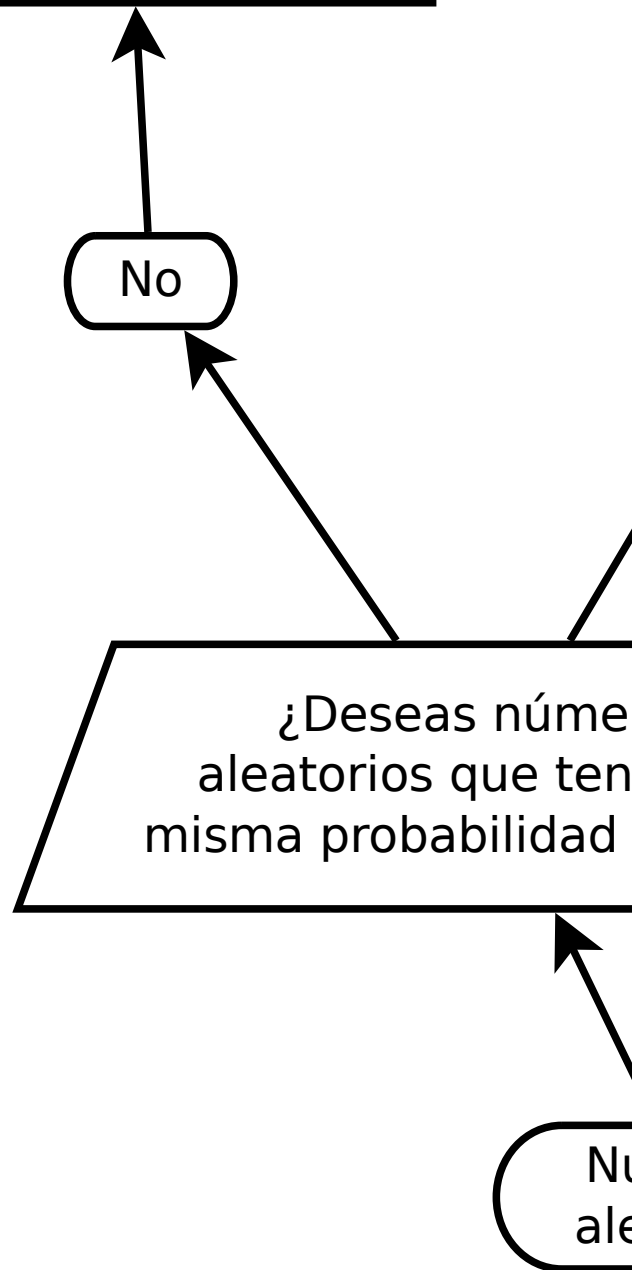


Distribución uniforme
 $\text{runif}(n, \text{min}, \text{max})$

No

¿Deseas número
aleatorios que tengan
misma probabilidad

No
ale



Bibliografía:
Programación y estadística con R
Juan José de Haro

replace)

Re

gresión logistica
library(ISRL)

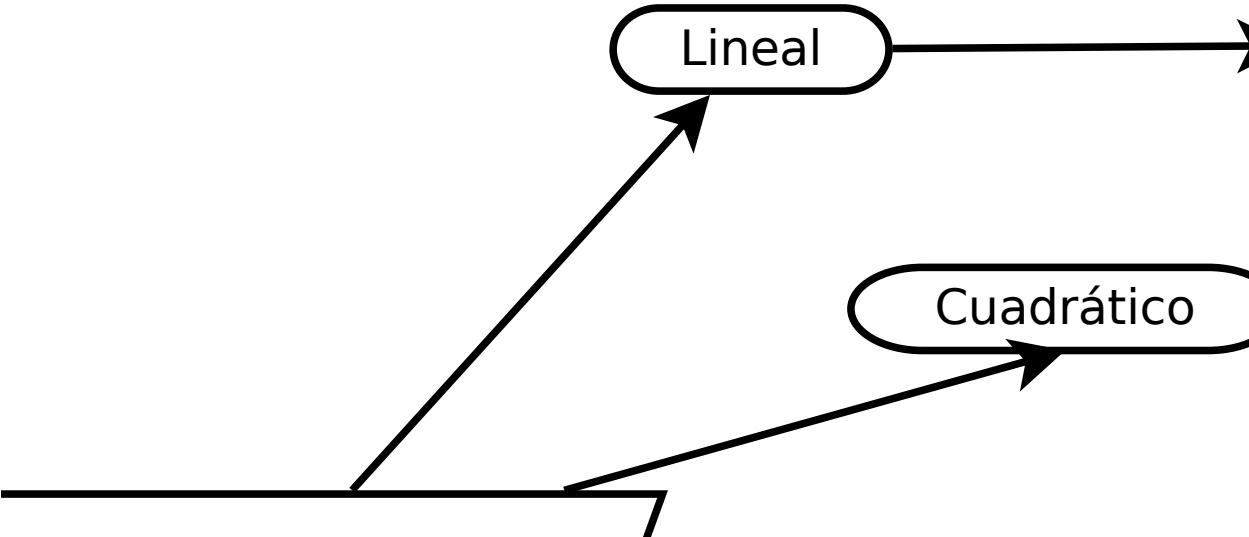


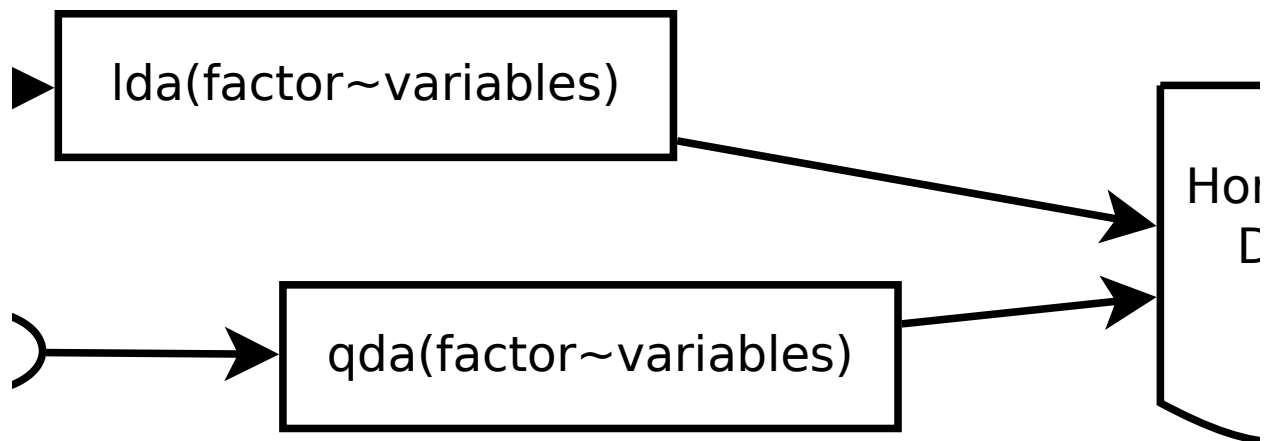
Clasificador Bayesiano
library(e1071)



ingenuo

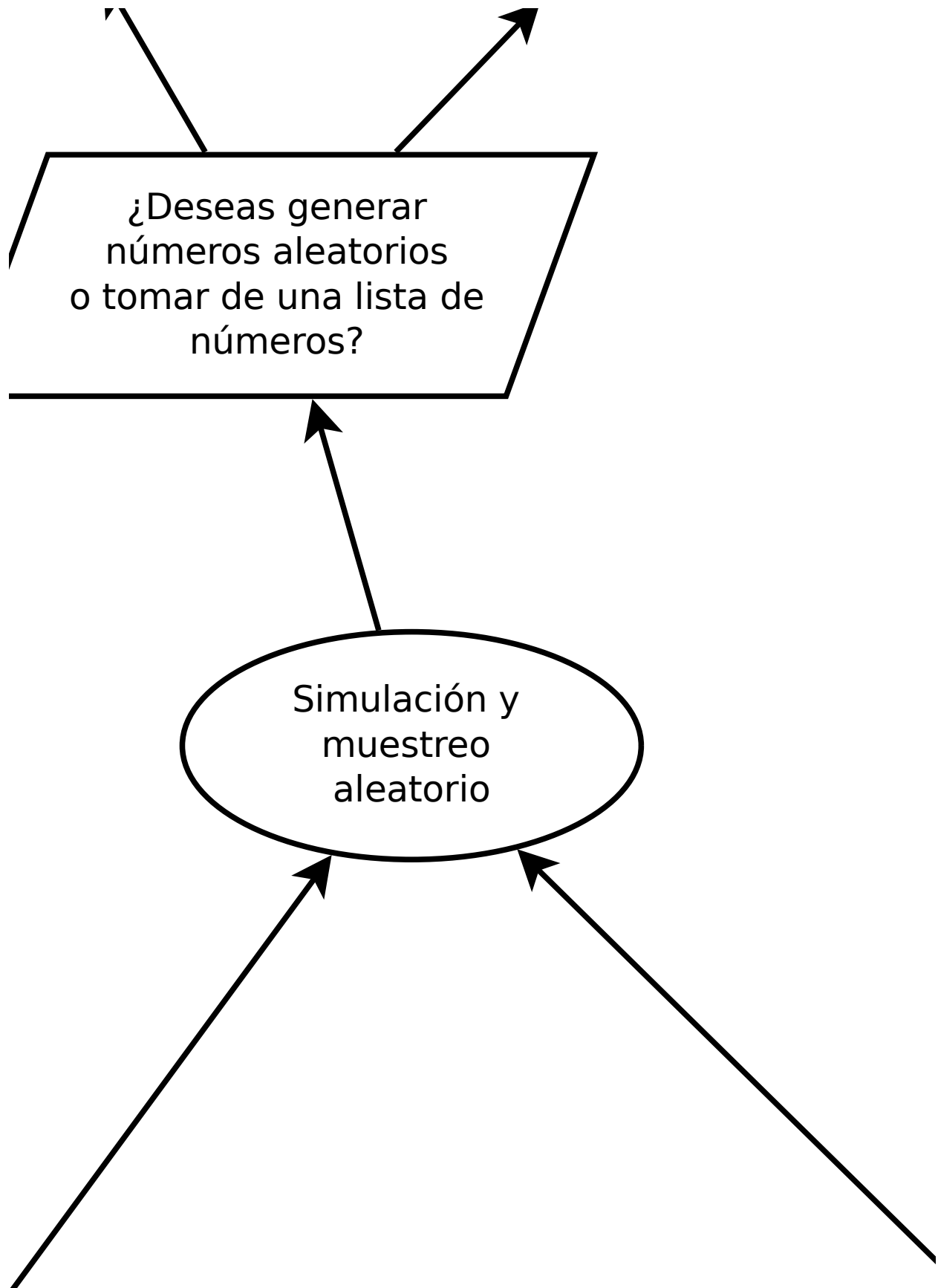




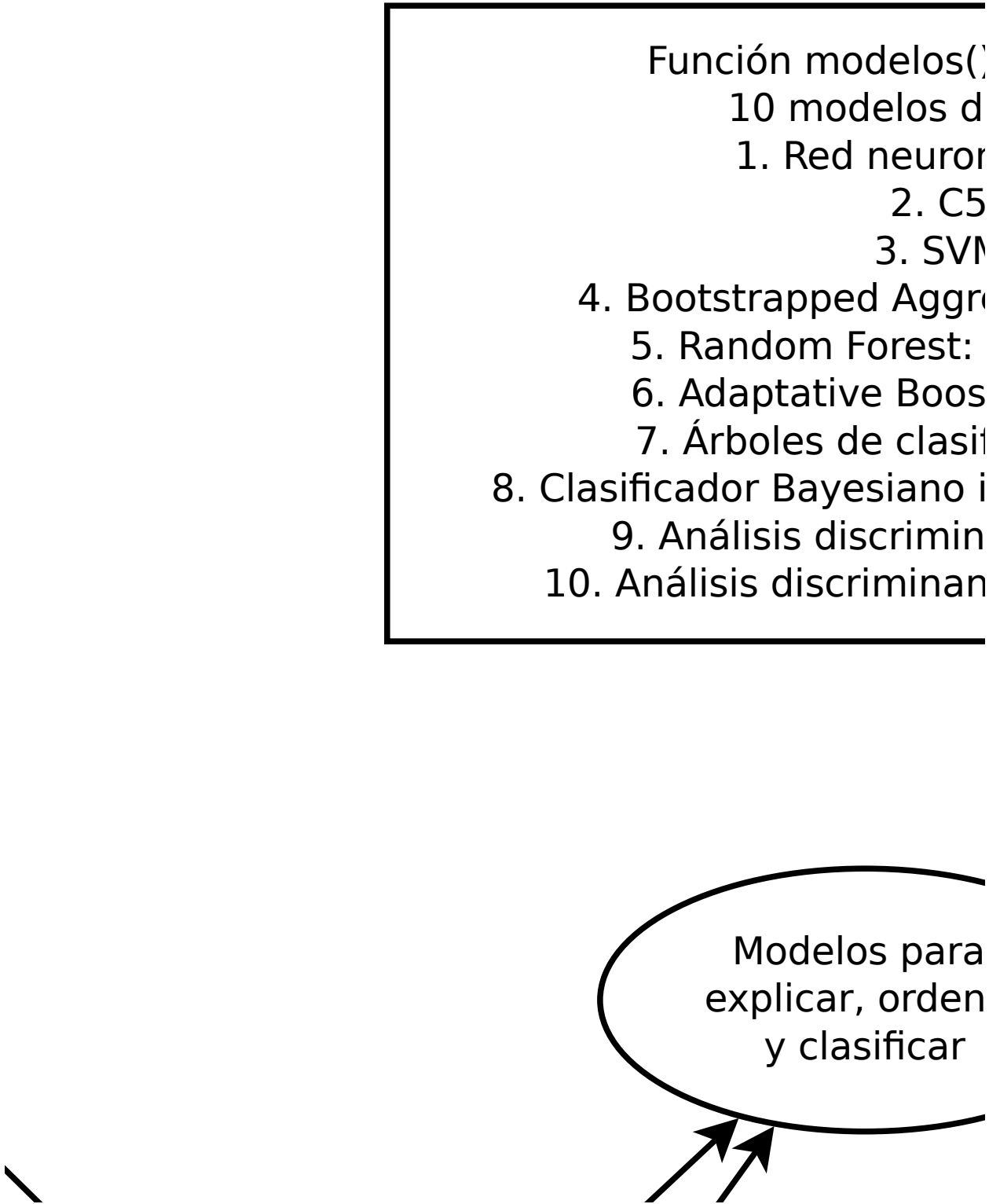


Presupone
homocedasticidad
distribuciones
normales

4



- Función modelos()
- 10 modelos d
1. Red neuror
 2. C5
 3. SVM
 4. Bootstrapped Aggr
 5. Random Forest:
 6. Adaptative Boos
 7. Árboles de clasifi
 8. Clasificador Bayesiano i
 9. Análisis discrimin
 10. Análisis discriminan

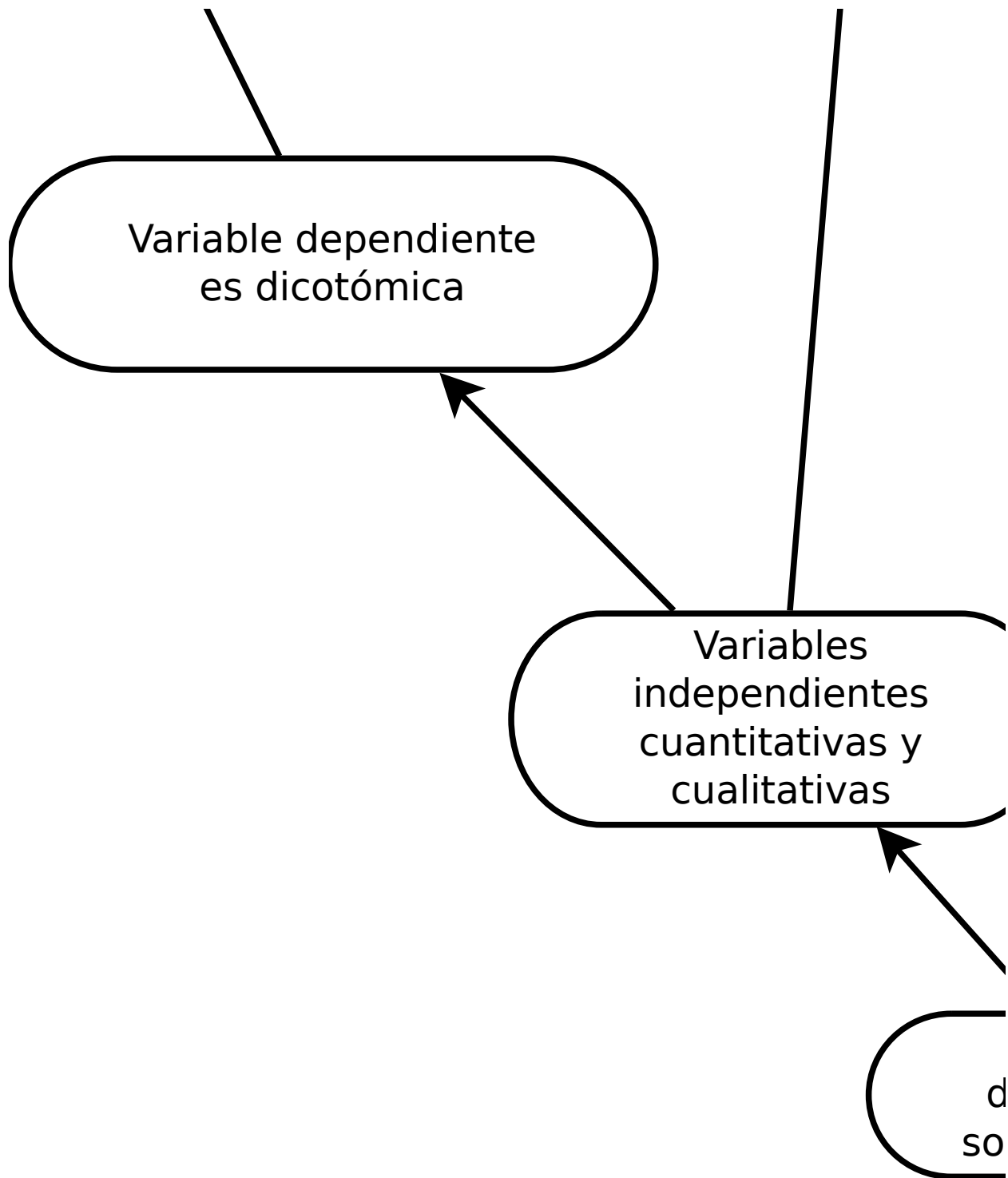


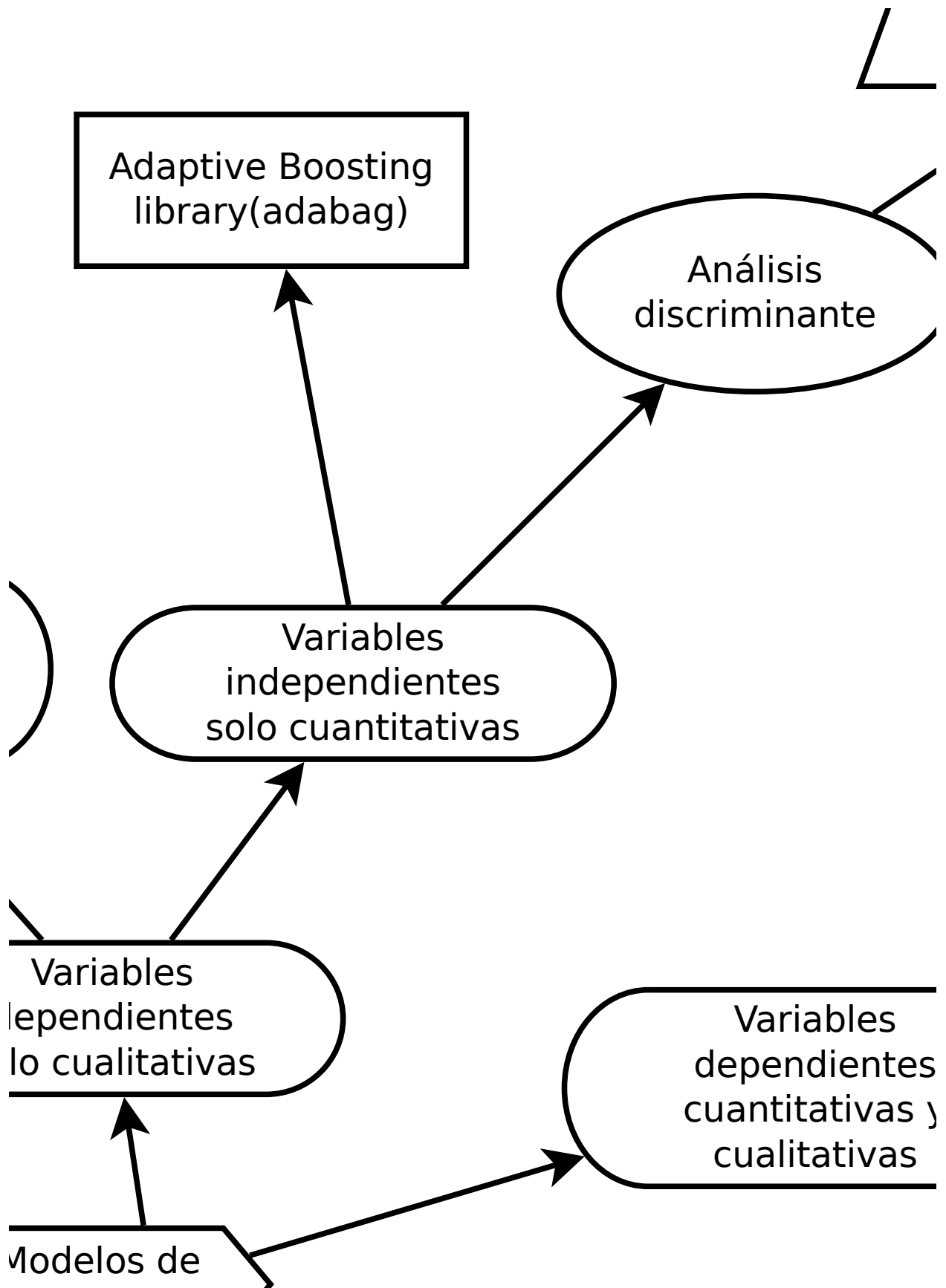
Modelos para
explicar, orden
y clasificar

) Para ajustar
diferentes
modelos: nnet

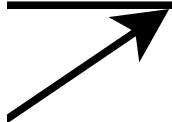
4
regression: bagging
randomForest
boosting: boosting
clasificación: rpart
ingeniería: nativeBayes
clasificación lineal: lda
clasificación cuadrática: qda

ar



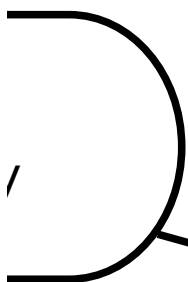


Tipo de discriminante

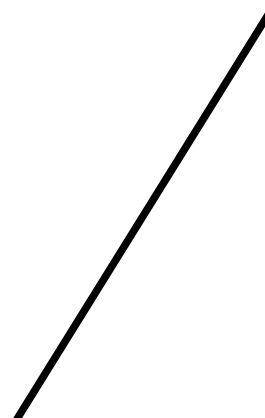


)

R
librai



Variables
indenendientes



andom Forest
ry(randomForest)

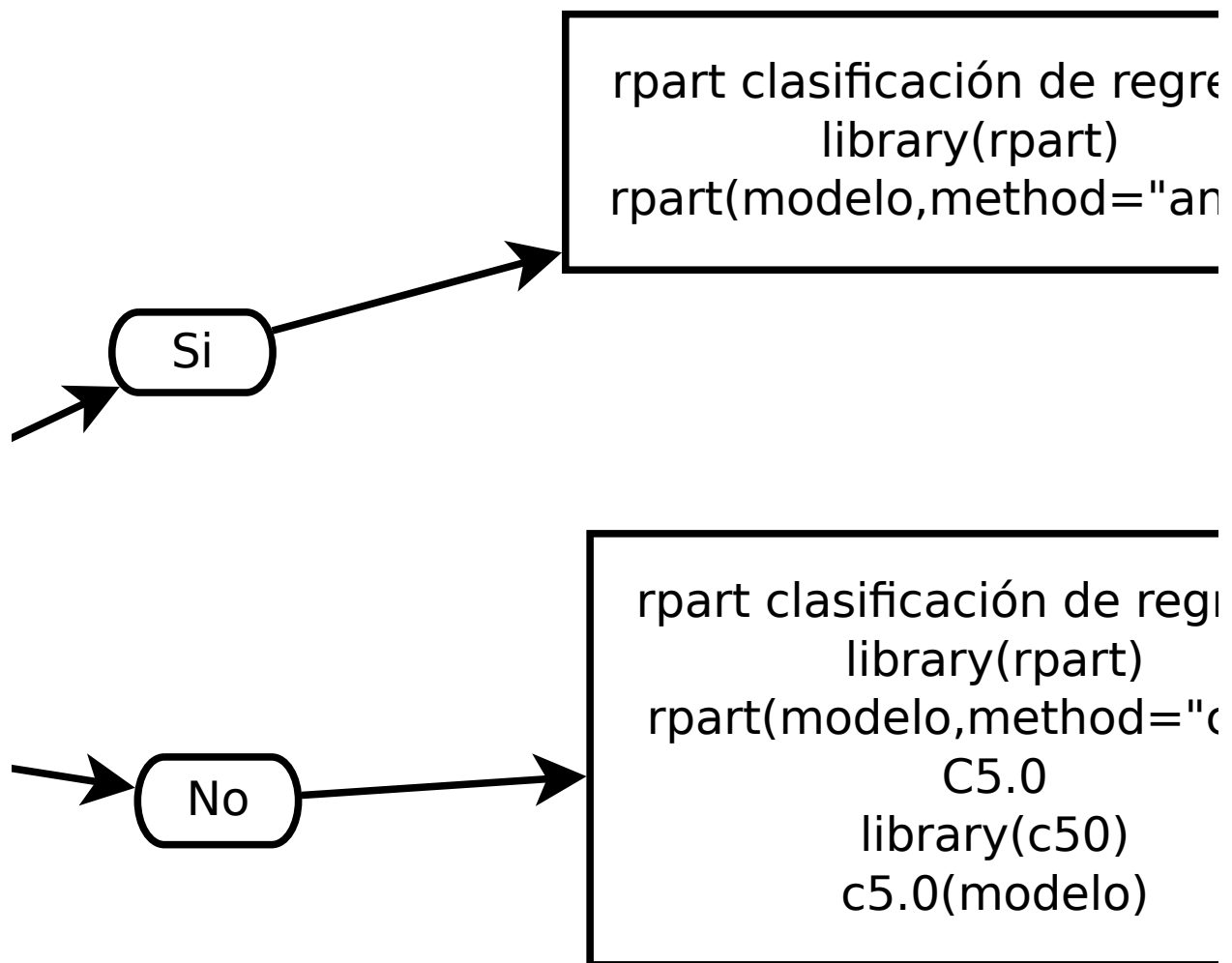
Arboles de
clasificación

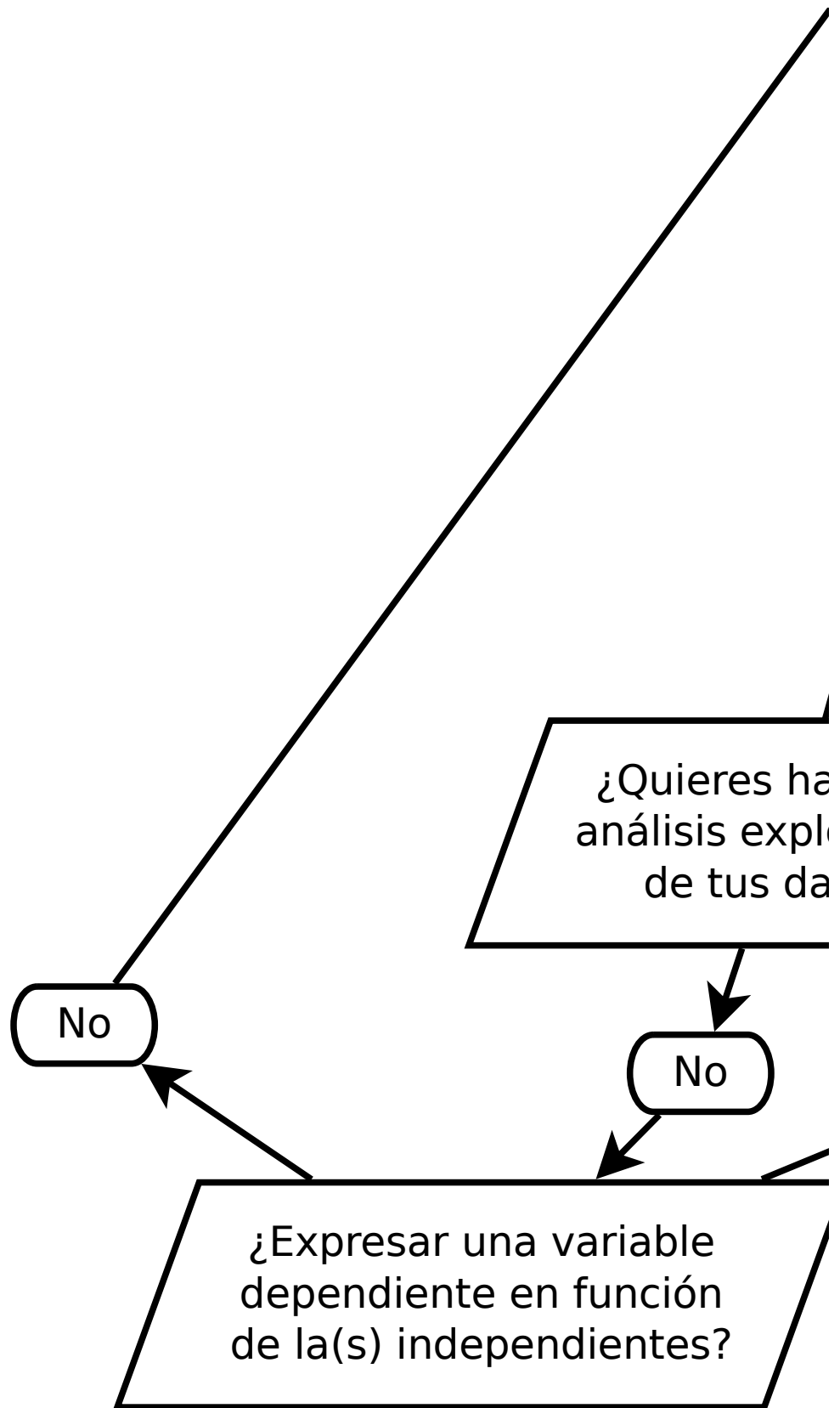
Bootstrap aggreg
library/



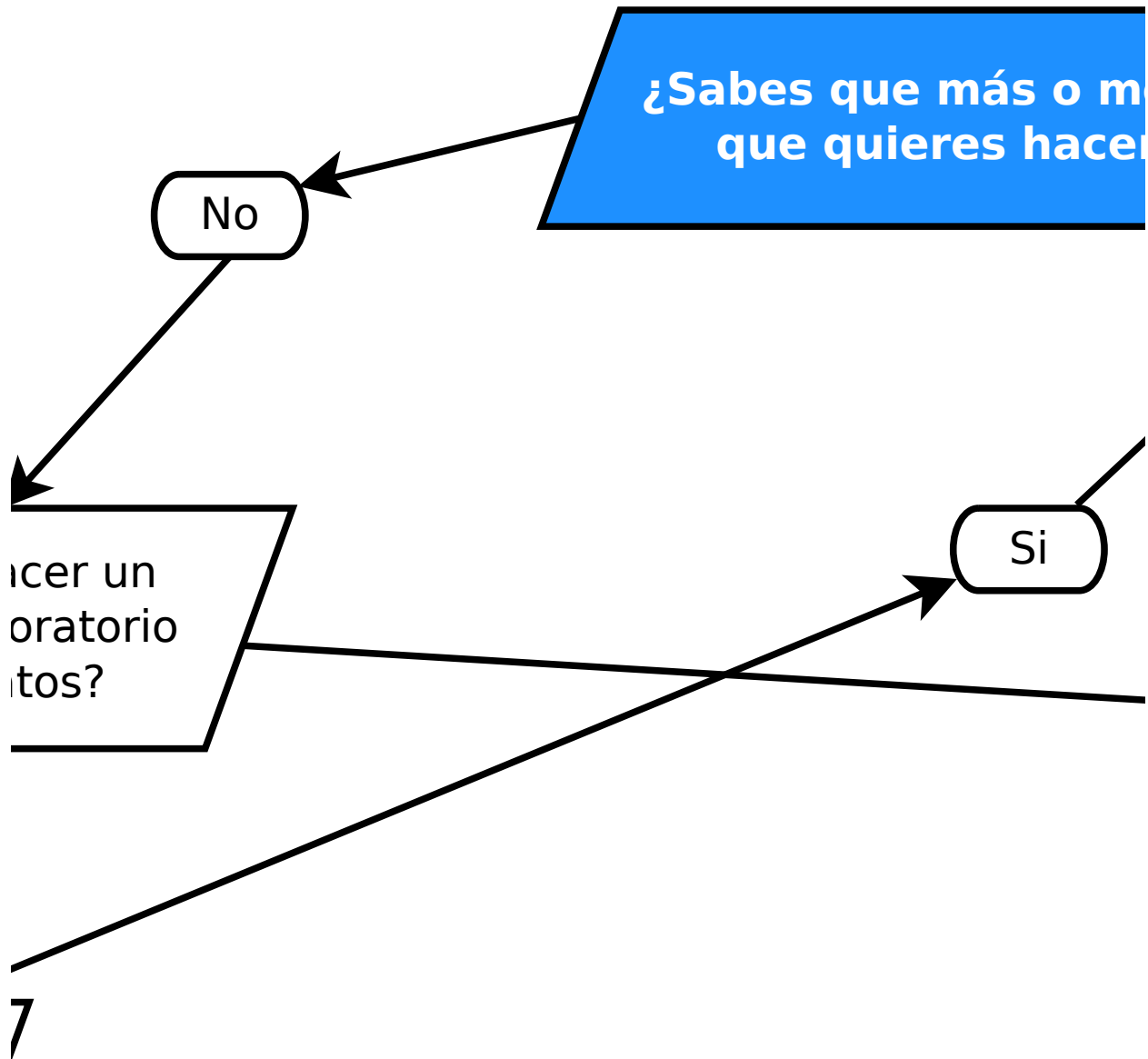
¿La variable dependiente
es continua?

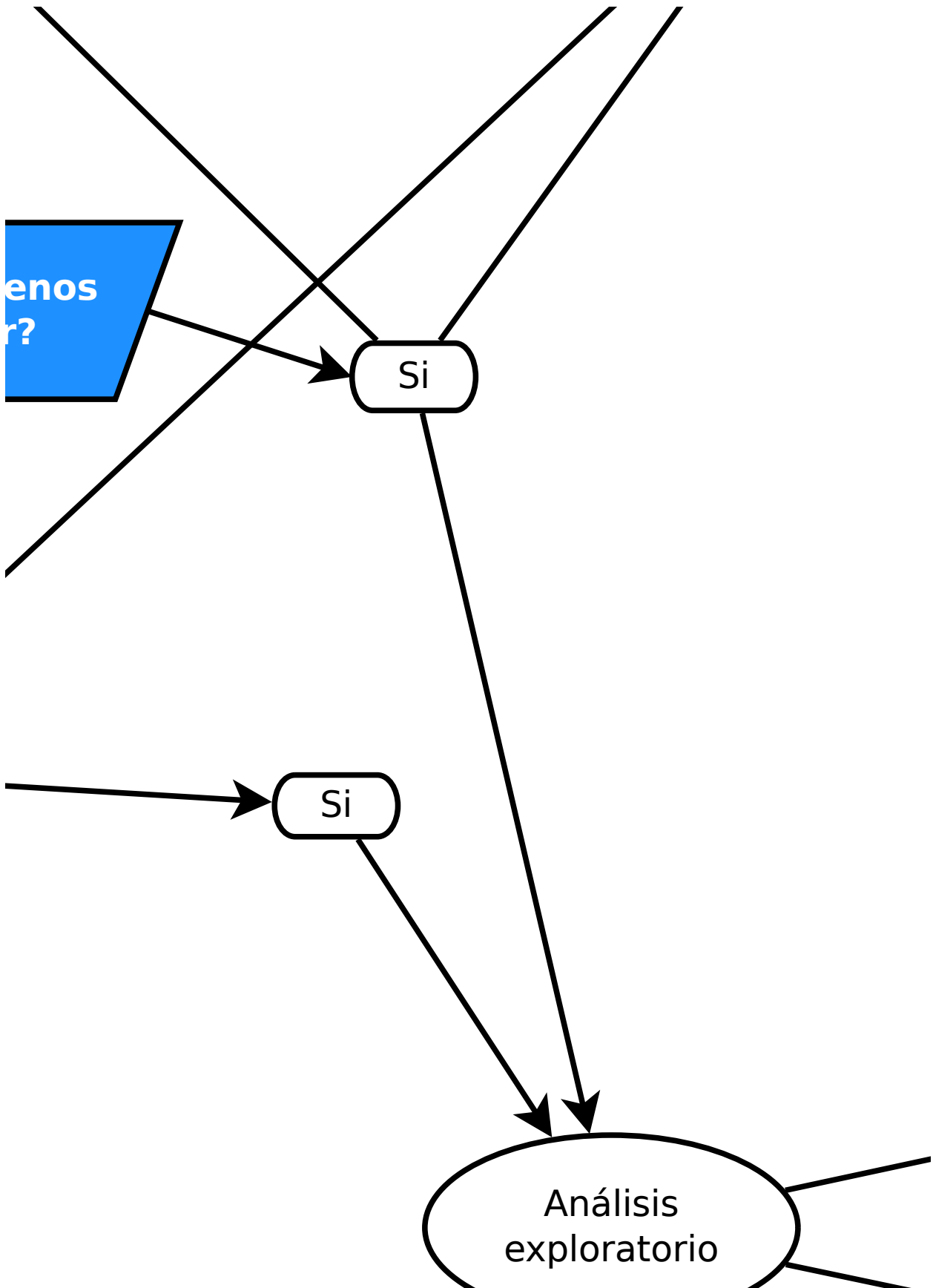
gating: bagging
inprod\

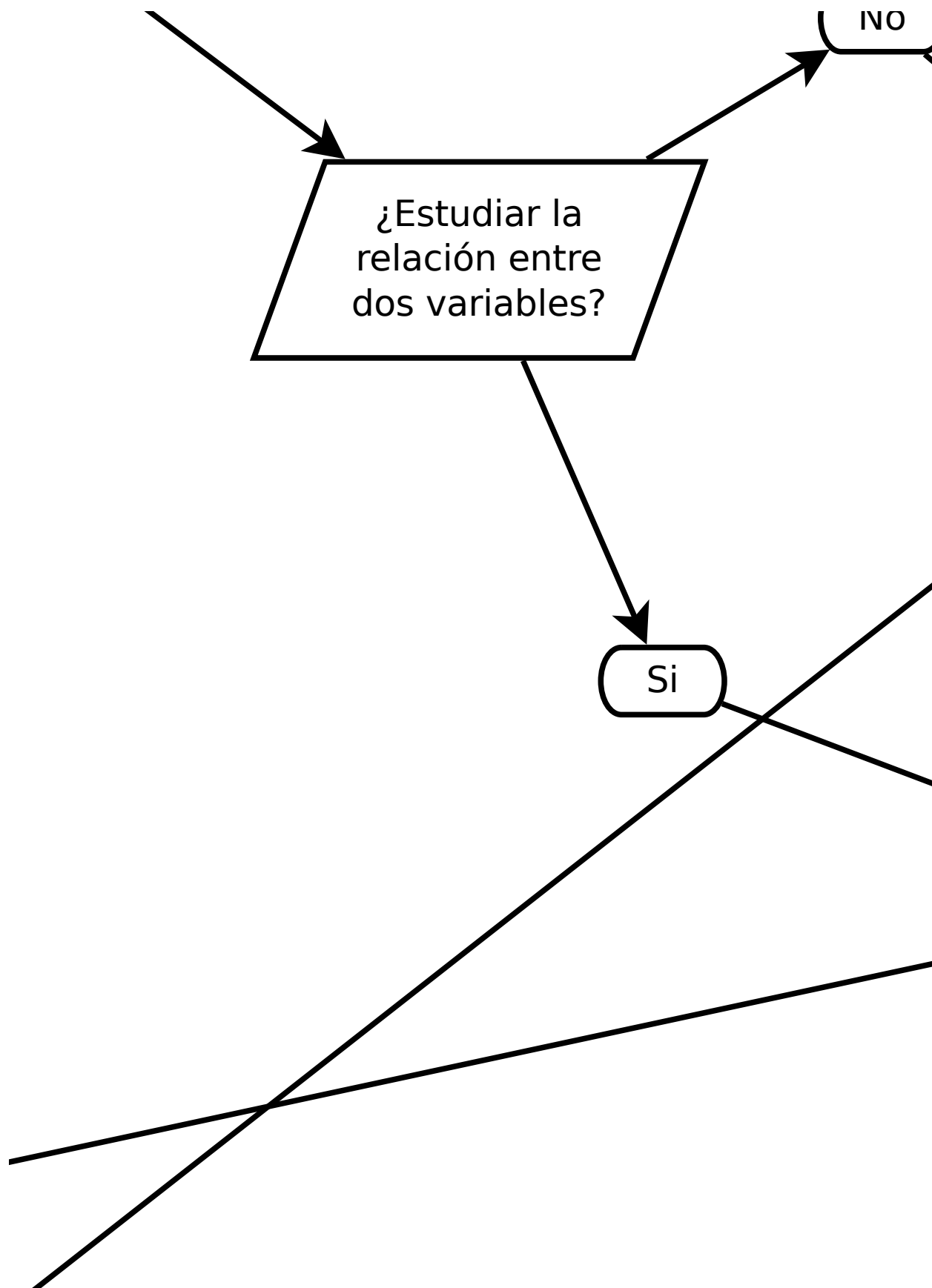


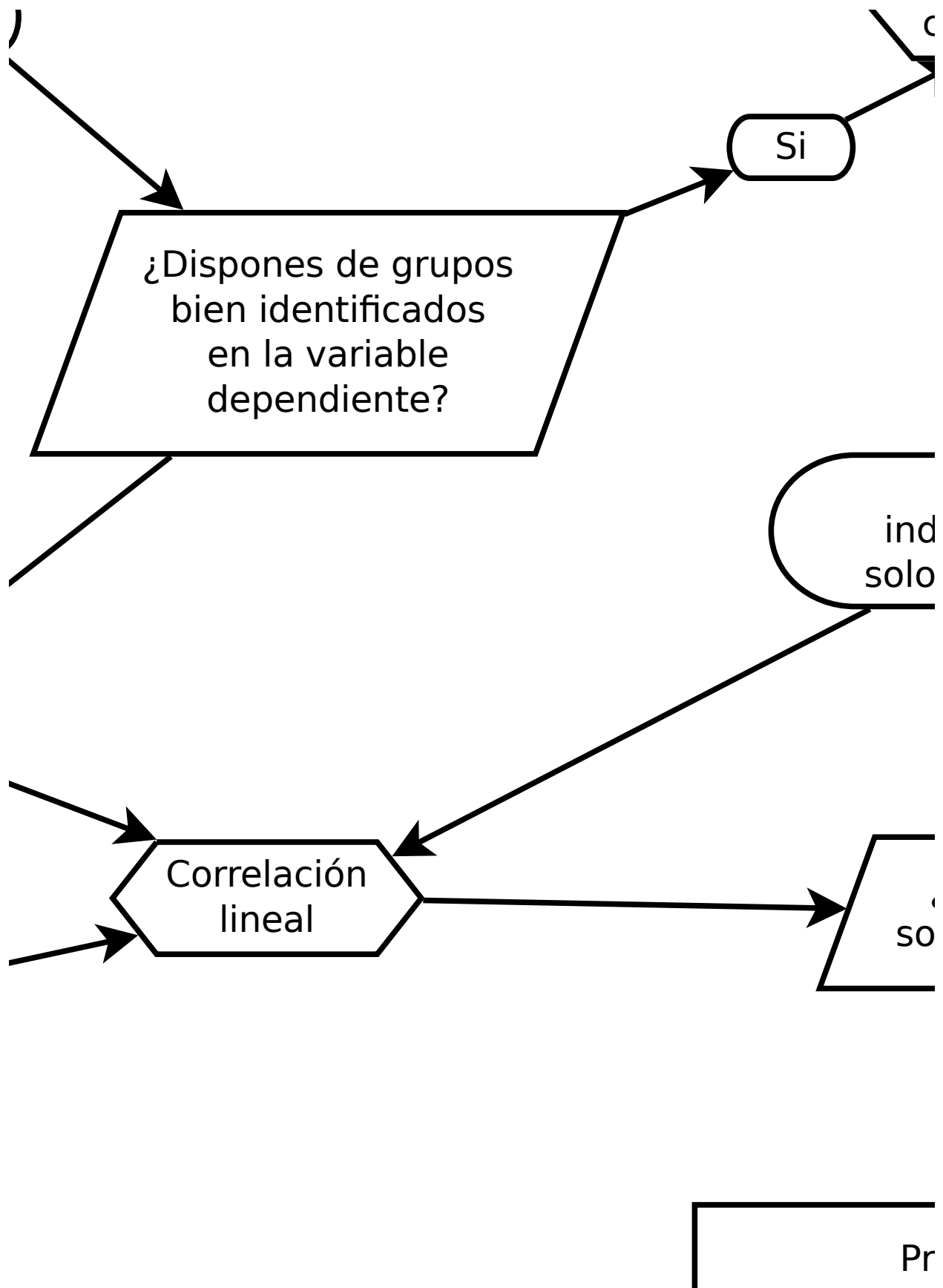


,

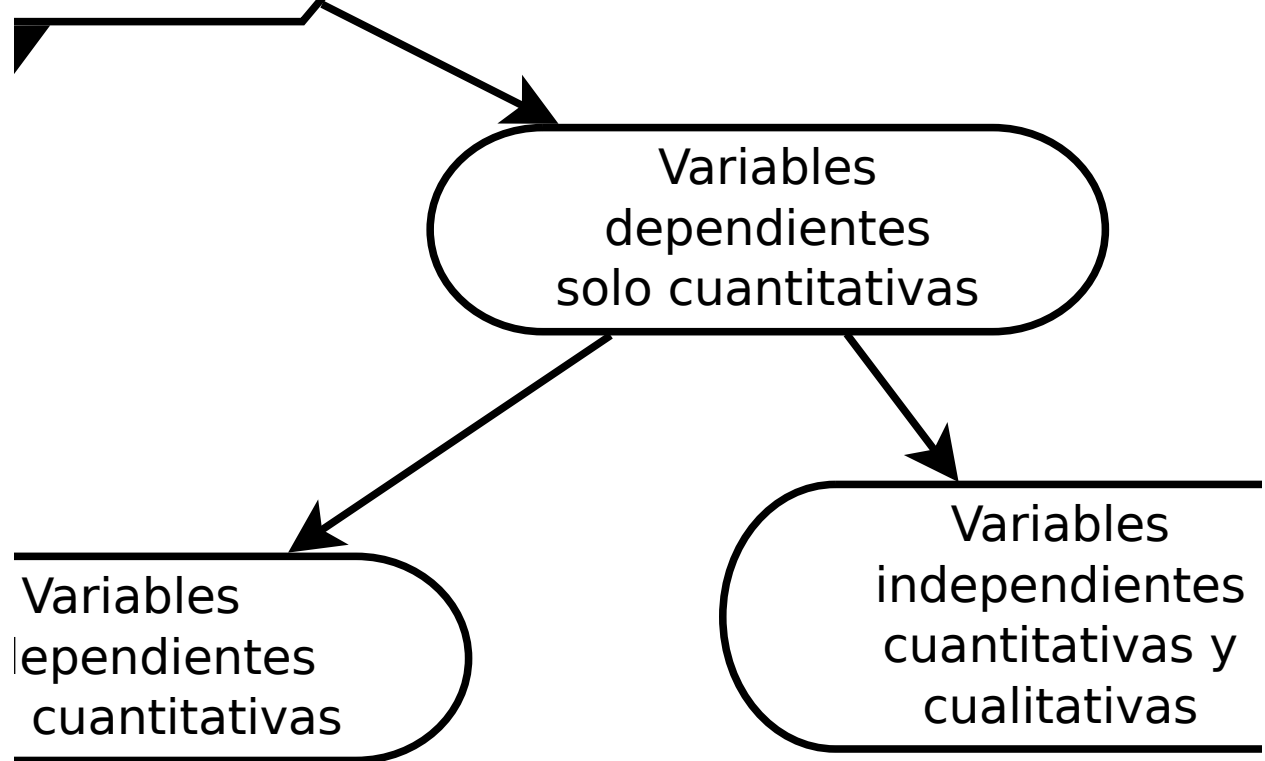








clasificación



¿Tus variables son paramétricas?

Si

No

Pruebas paramétricas

Pruebas no paramétricas

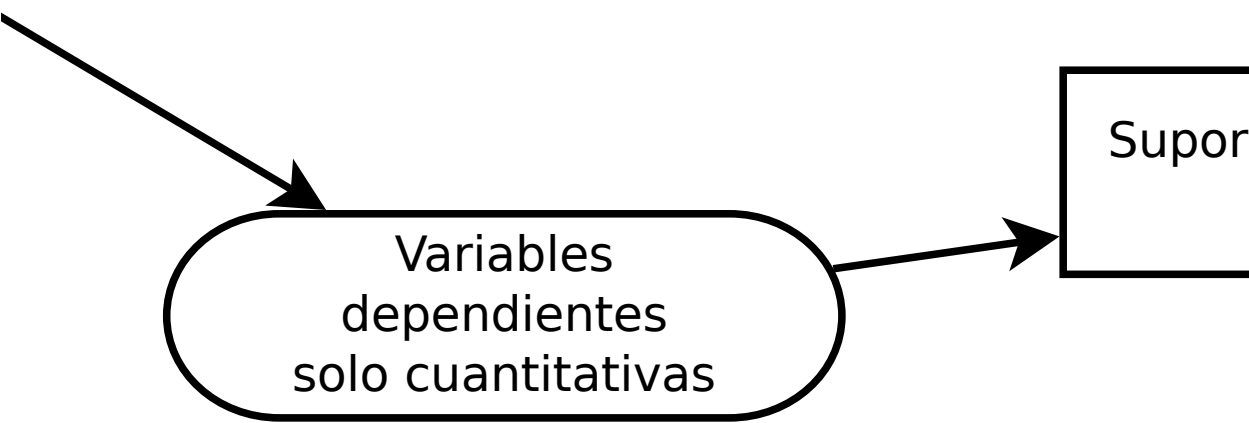
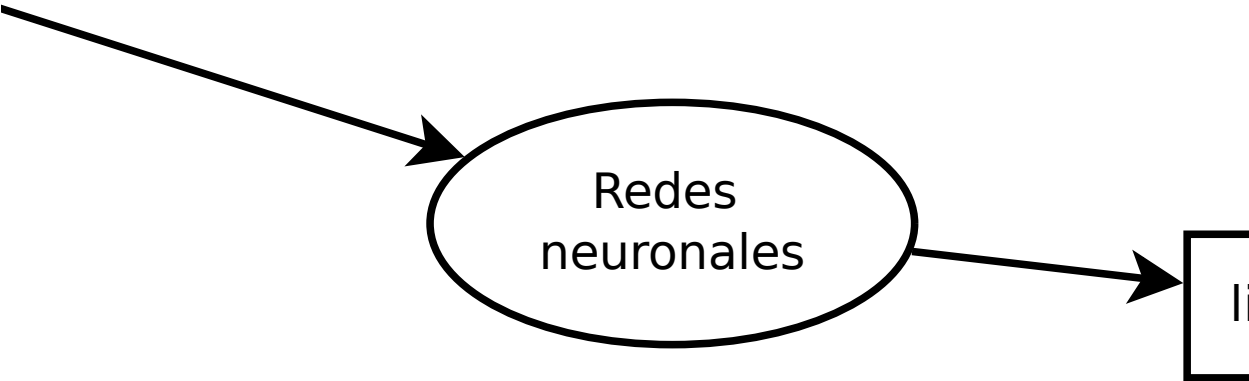
independientes
cuantitativas y
cualitativas

ANOVA TEST

Correlación de pearson
`cor.test(x,y)` # un par de variables
`cor(data)` # más de dos

Correlación de Sperman
`cor.test(x,y,method="spearman")`
Correlación de Kendall
`cor.test(x,y, method="Kendall")`

library()



)

```
ipred)
```

```
library(nnet)
```

```
Support Vector Machines (SVM)  
library(e1071)
```



```
Algoritmo  
esperanza-maxim  
library(mclu  
Mclust(dat
```

```
k-means  
kmeans(x,k=particiones)
```

Si

```
graph BT; Si([Si]) --> kmeans[k-means  
kmeans(x,k=particiones)];
```

de
mización
ust)
os)

Agrupación Jerárquica
x.dist<-dist(x)
x.hclust<-hclust(x.dist)
plot(x.hclust, hang=-1)

Si

No

¿Realizar la partición
automaticamente?

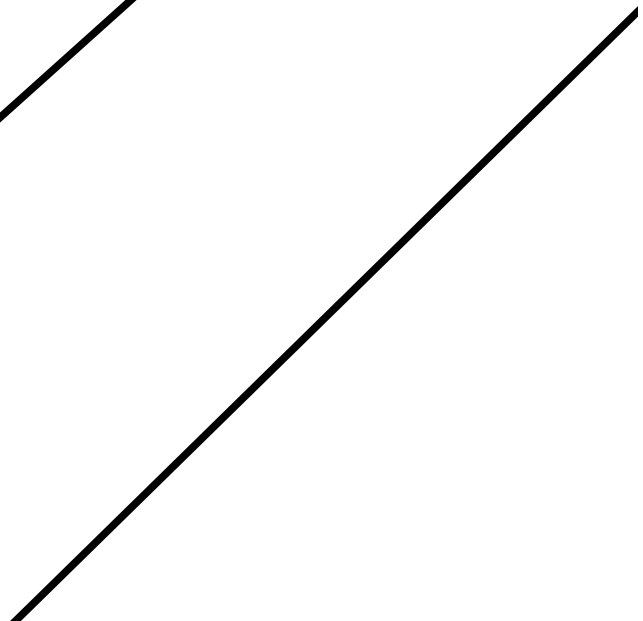
No

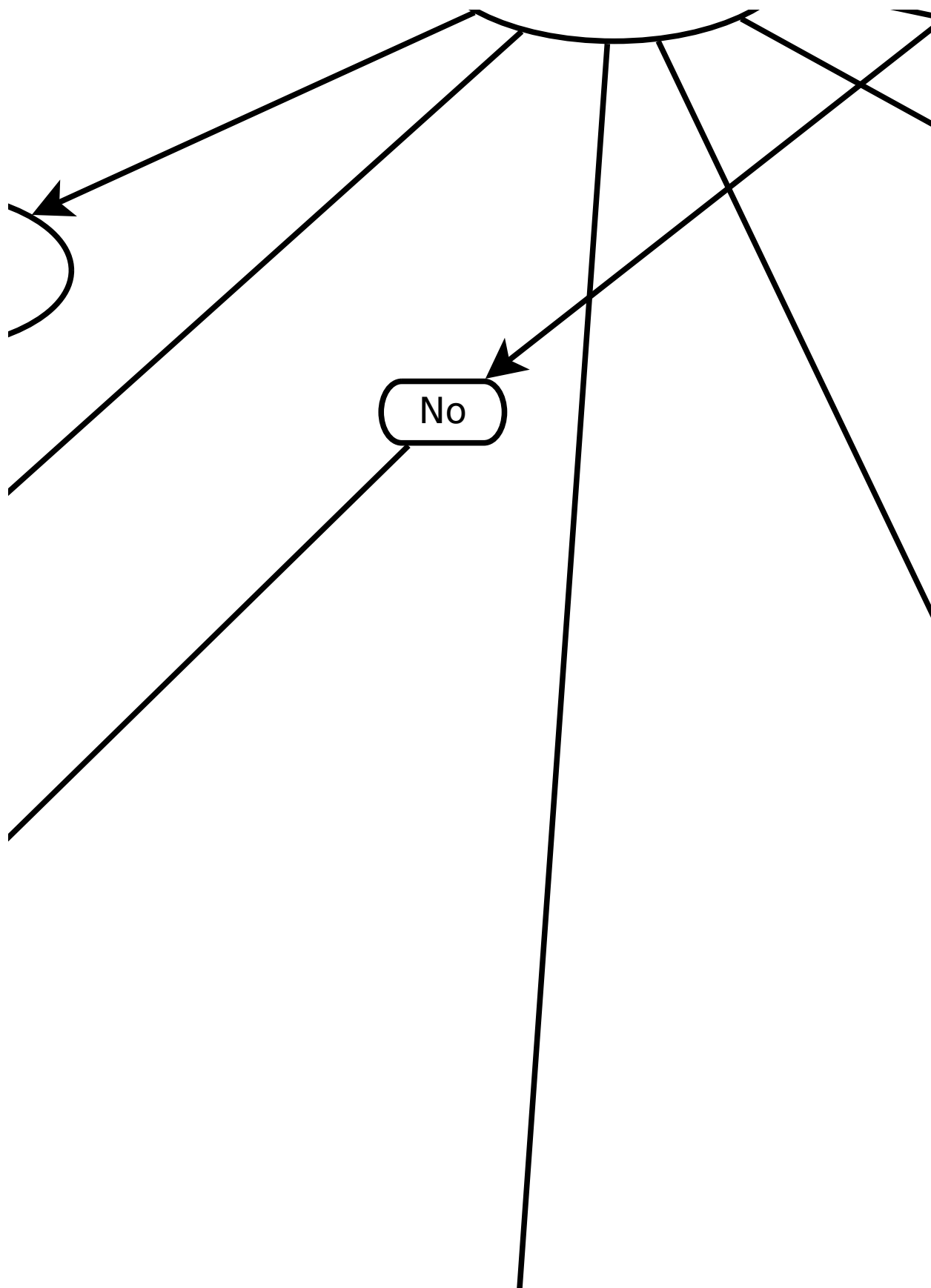
Representar los

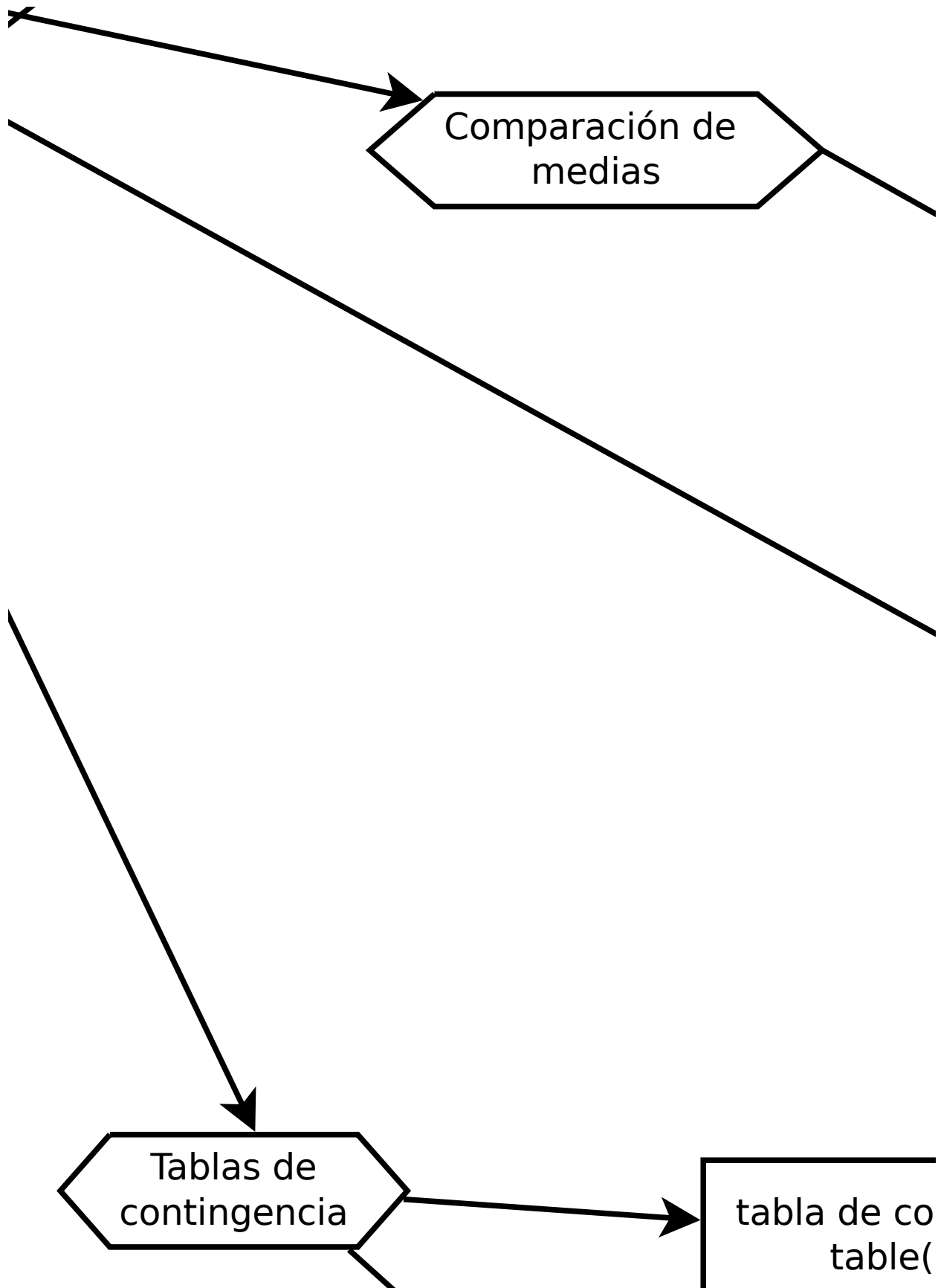
Valores
atípicos

Outliers
library(outliers)
function: v.atipicos

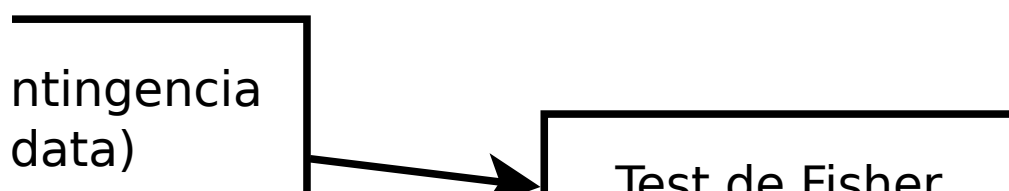
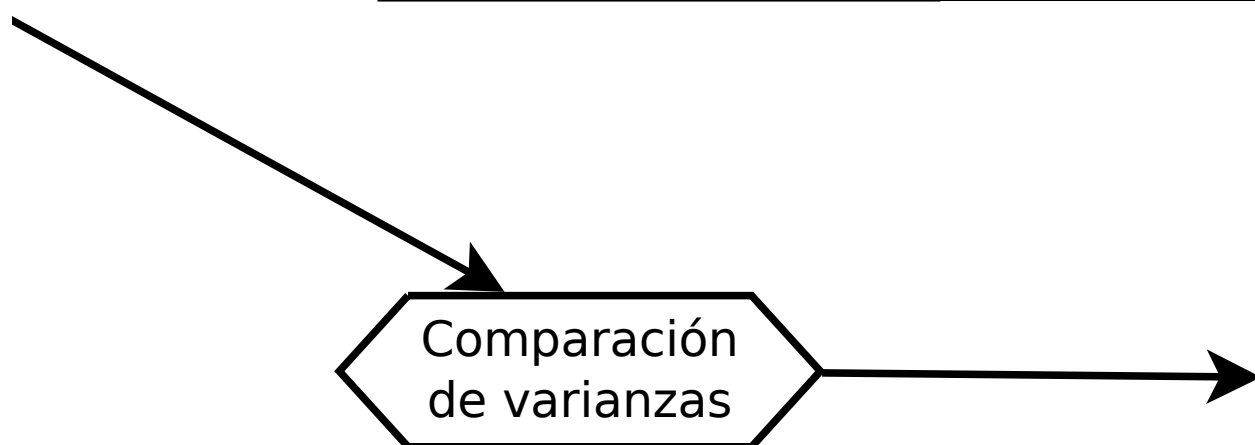
Estadística
descriptiva







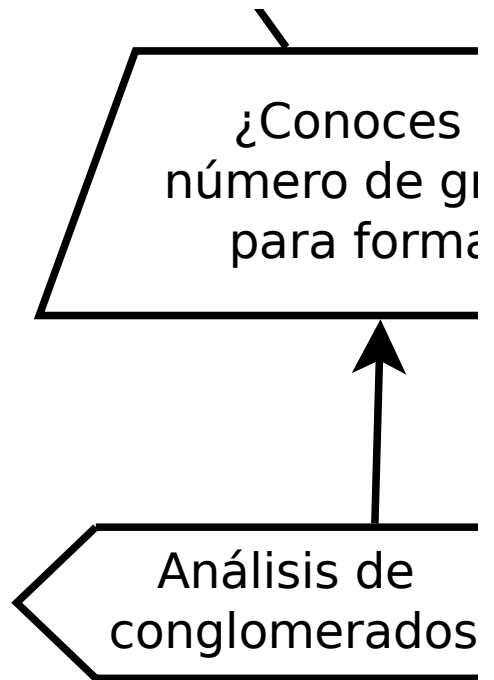
| | |
|----------------------------------|-----------------|
| | Para |
| Comparación de dos medias | T de t.te |
| Comparación de más de dos medias | ANCO aov(x. |
| Comparación de pares de medias | Test TukeyHSD(a |

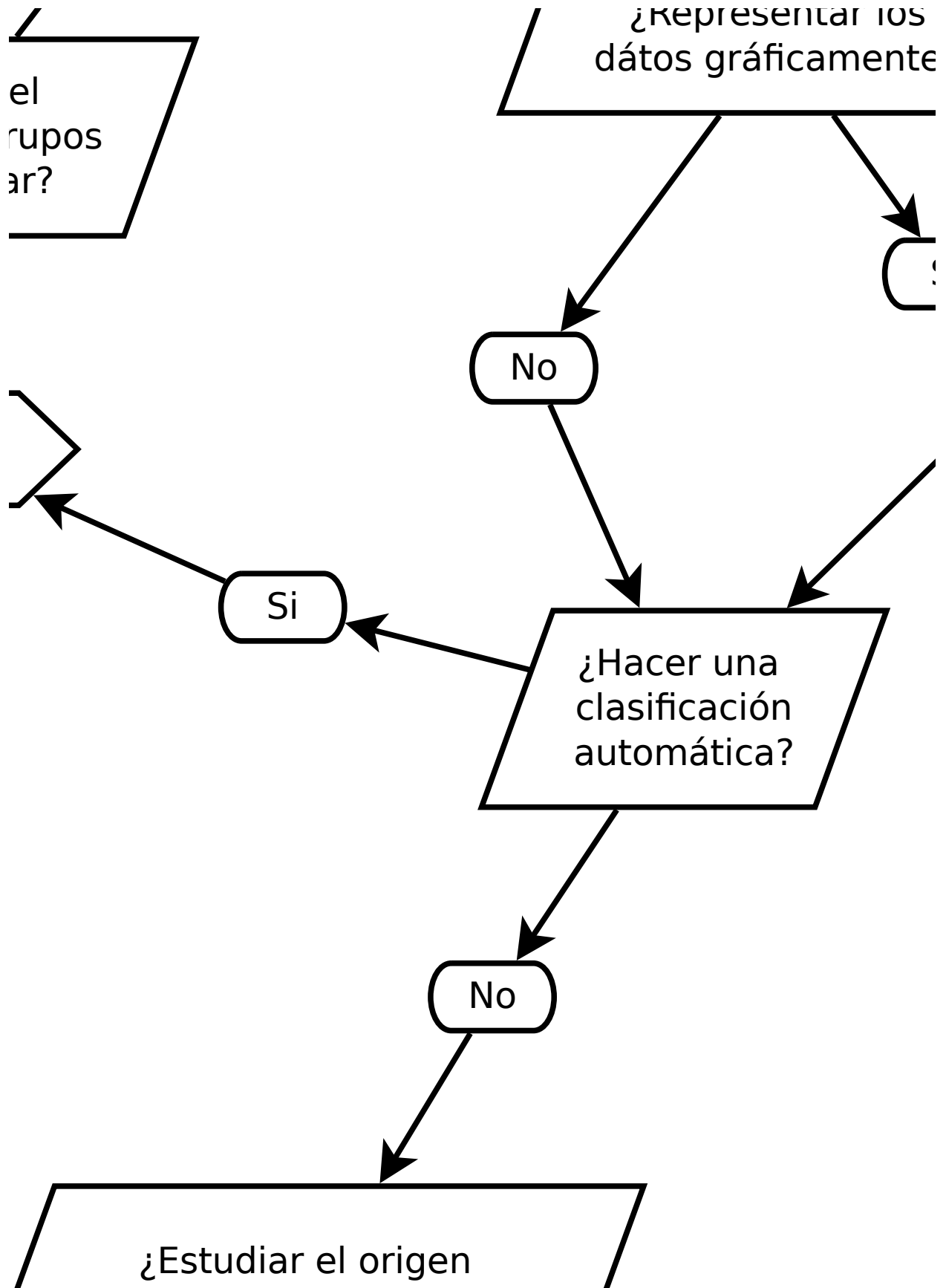


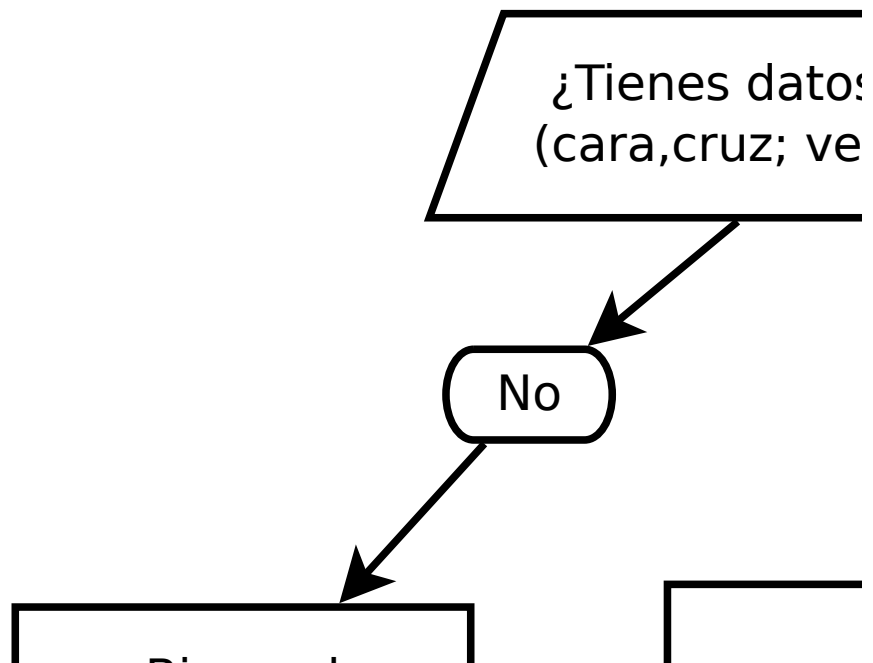
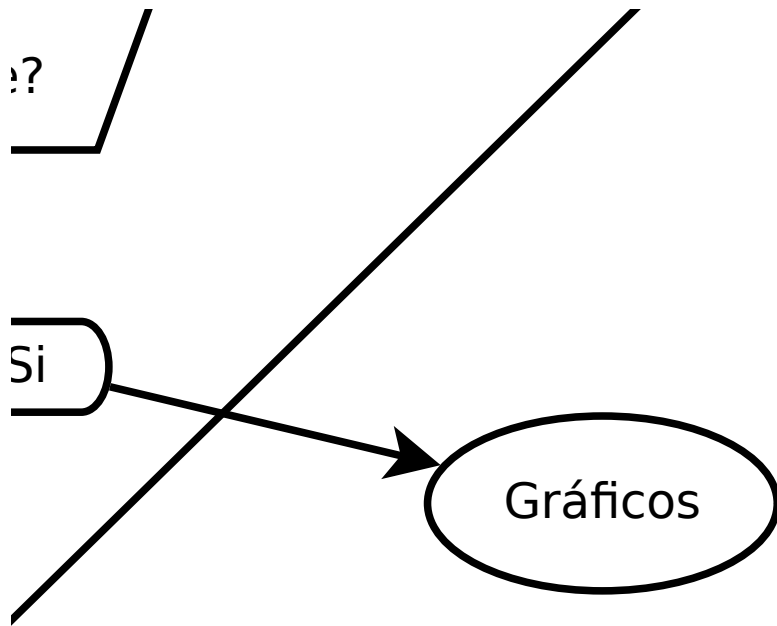
| métricas | paramétricas |
|---|---|
| <p>t student</p> <p>est(x,y)</p> | <p>Prueba de Kruskal-Wallis</p> <p>kruskal.test(data)</p> <p>kruskal.test(x,factores)</p> |
| <p>DVA test</p> <p>~factores)</p> | <p>Prueba de los rangos con signo de Wilcoxon</p> <p>wilcox.test(x,mu)</p> |
| <p>de Tukey</p> <p>iov(x~factores))</p> | |

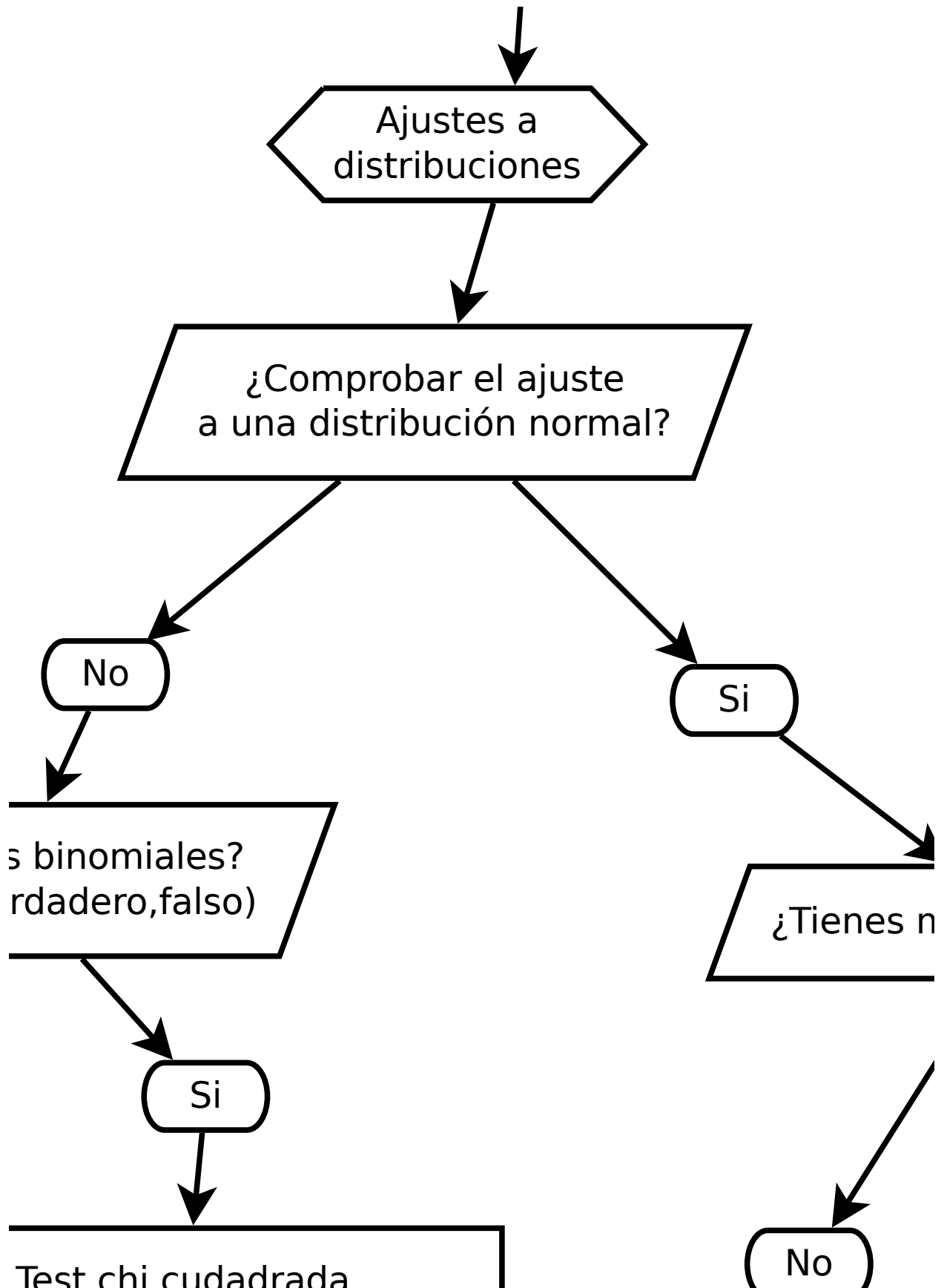
| | Pruebas Paramétricas |
|------------------------------------|---|
| Comparación de dos muestras | <p>Test F</p> <p>var.test(x,y)</p> |
| Comparación de más de dos muestras | <p>Prueba de Bartlett</p> <p>bartlett.test(datos)</p> <p>Test Levene (Más robusto a desviaciones de normalidad)</p> <p>library(car)</p> <p>leveneTest(x,factores)</p> |

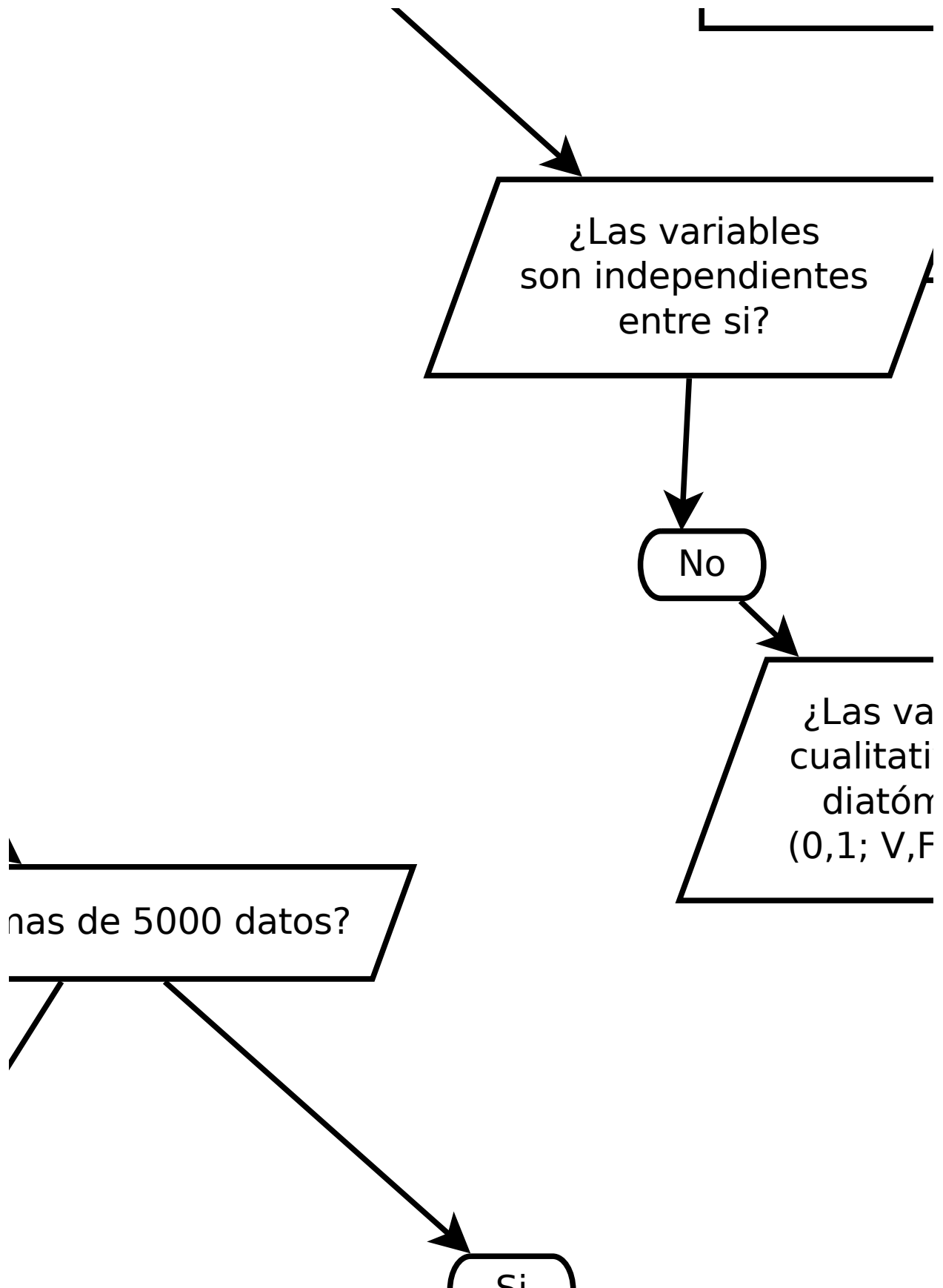
| | |
|-----------|---|
| | Pruebas no paramétricas |
| o dad) | Prueba de Fligner-killen finger.test(data) |



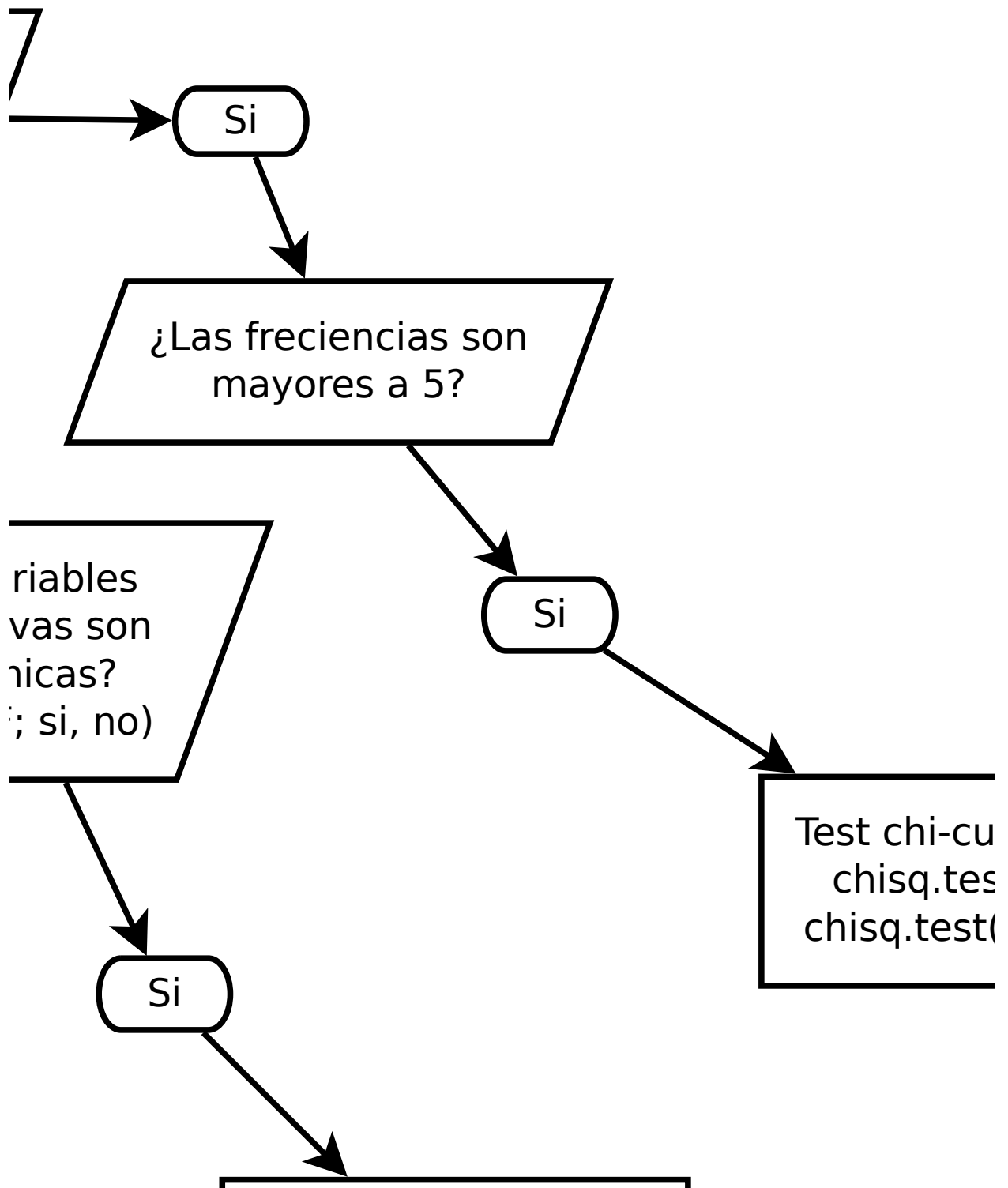








Test de Fisher:
fisher.test(data)





adrada
st(x,f)
(datos)



colore:

L

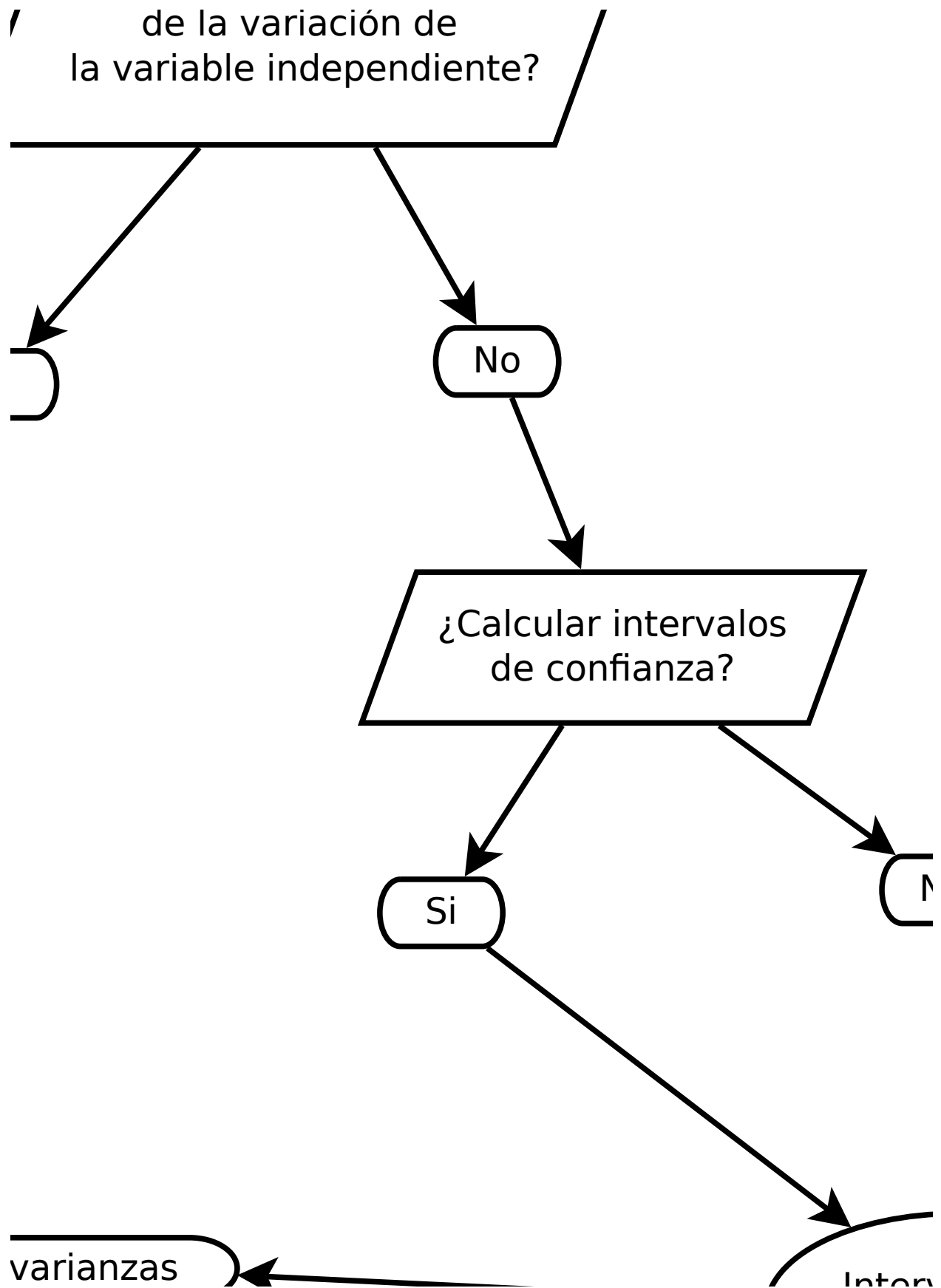
Si

Análisis de
componentes
principales (PCA)

```
x.pca<- prcomp(x)
s<-rainbow(length(names))
pairs(x.pca$x[1:3])
```

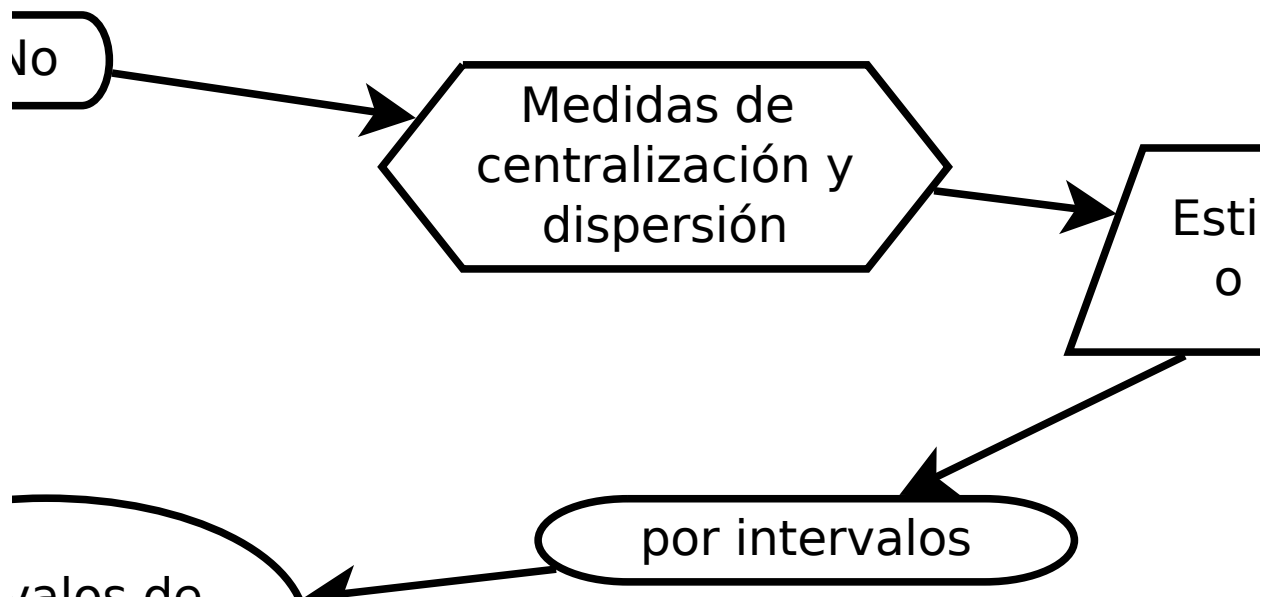
```
n=length(x)
conf.level=0.05
```

Si

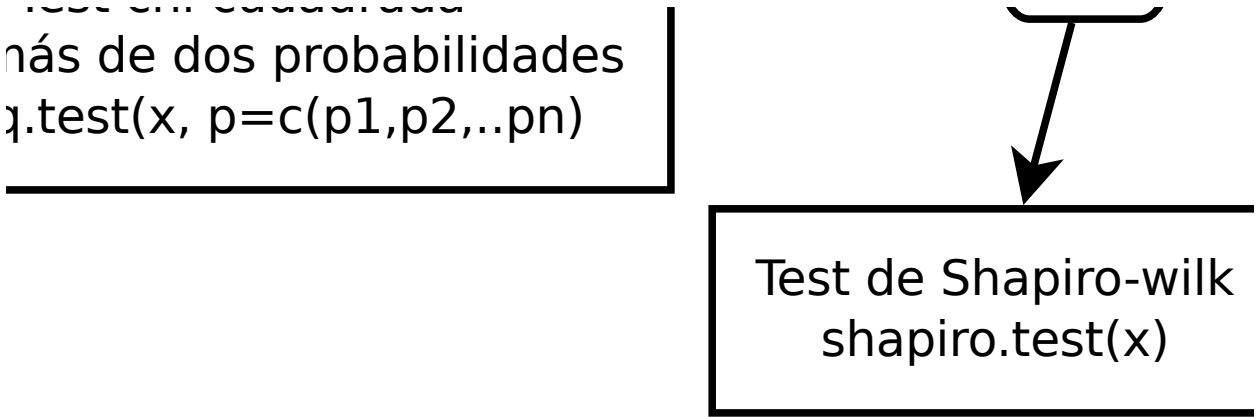


Binomial
`binom.test(x,p)`

para n
chisq

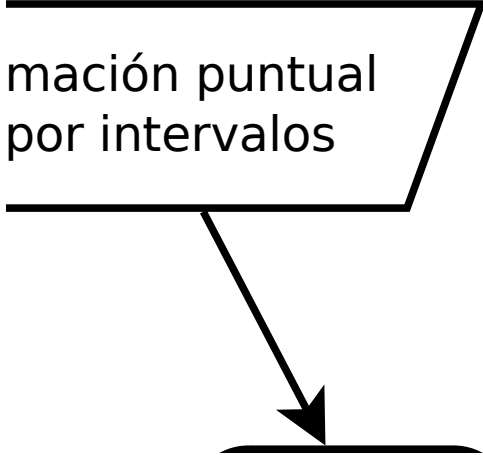


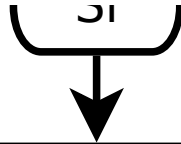
Test en cada una
más de dos probabilidades
`g.test(x, p=c(p1,p2,..pn))`



Test de Shapiro-wilk
`shapiro.test(x)`

mación puntual
por intervalos





]

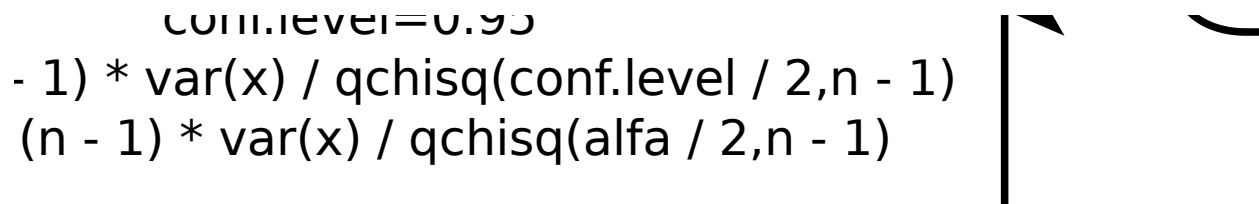
```
library(nortest)
Test de Anderson-Darling
ad.test(x)
Test de Kolmogorov-Smirnov (Lilliefors)
lillie.test(x)
```

Test de McNemar
`mcnemar.test(datos)`
`mcnemar.test(x,f)`

lower = (n .

upper =

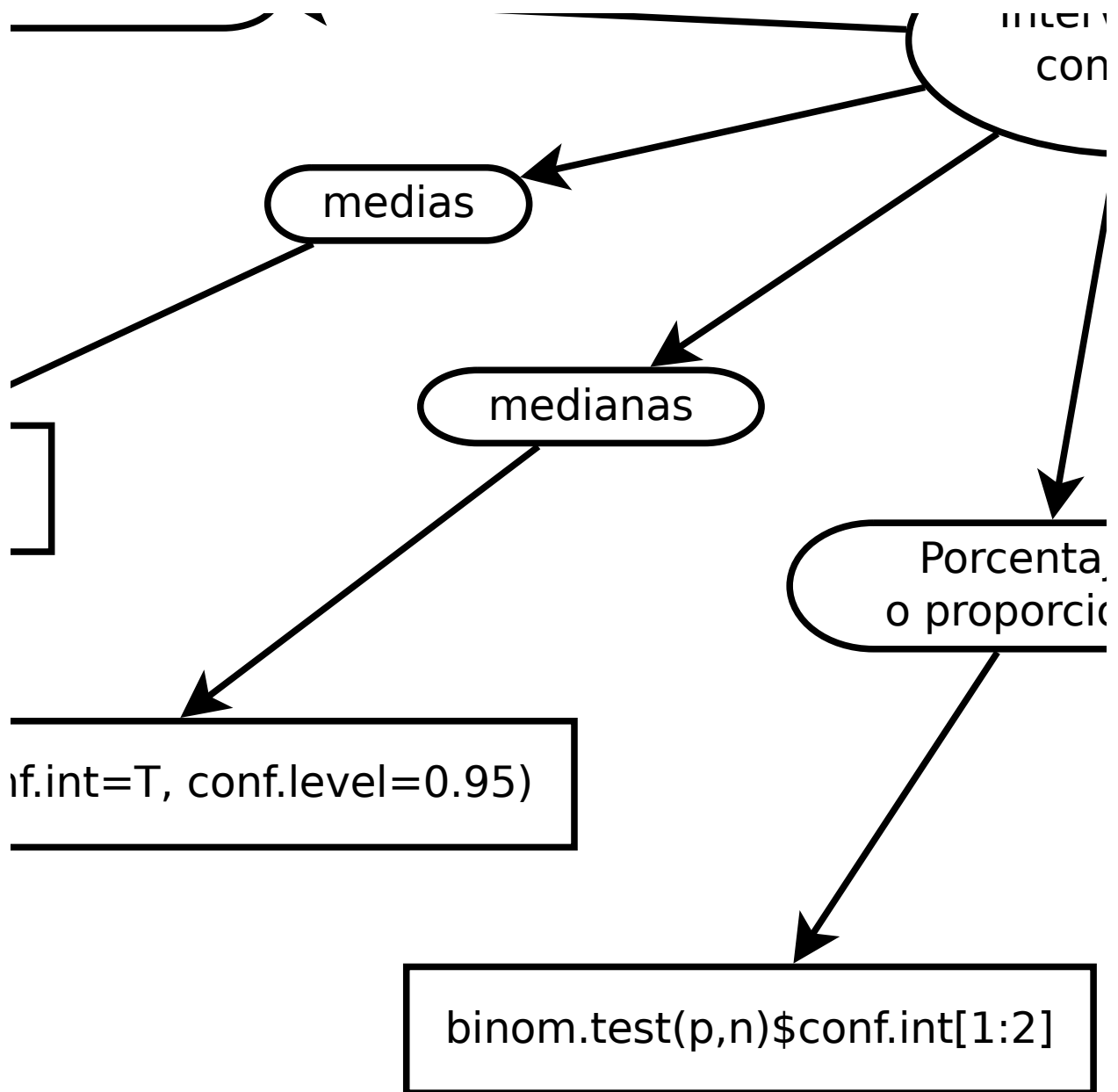
```
conf.level=0.95  
- 1) * var(x) / qchisq(conf.level / 2,n - 1)  
(n - 1) * var(x) / qchisq(alfa / 2,n - 1)
```



A diagram consisting of a rectangular box on the left containing R code. A horizontal line extends from the bottom of this box to the right, where it meets a vertical line. From the top of this vertical line, an arrow points diagonally upwards and to the right, ending at the top-right corner of a second rectangular box.

```
t.test(x)$conf.int[1:2]
```

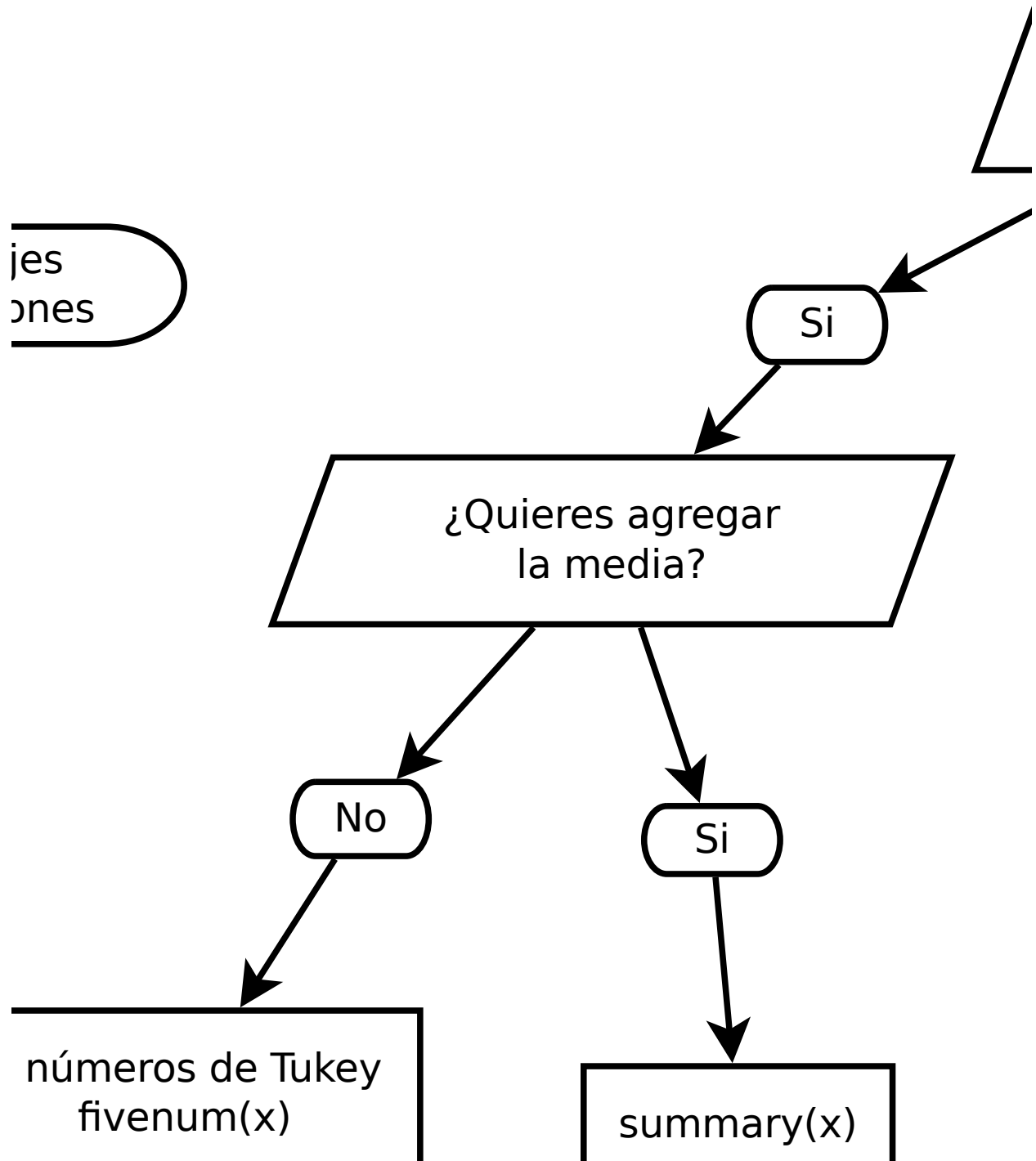
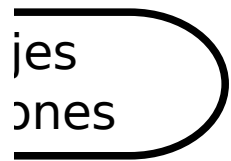
```
wilcox.test(x, cor
```

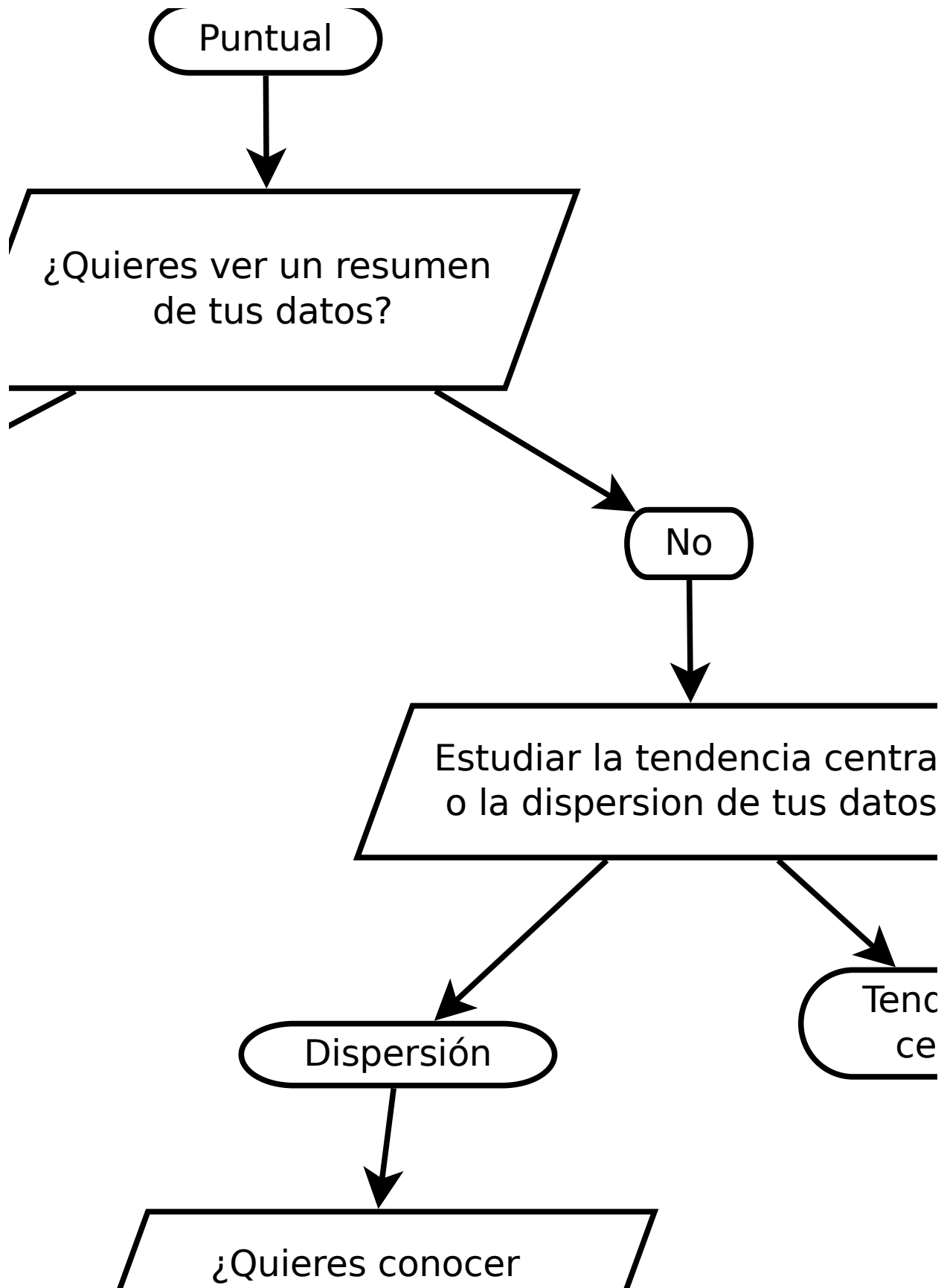


varios de
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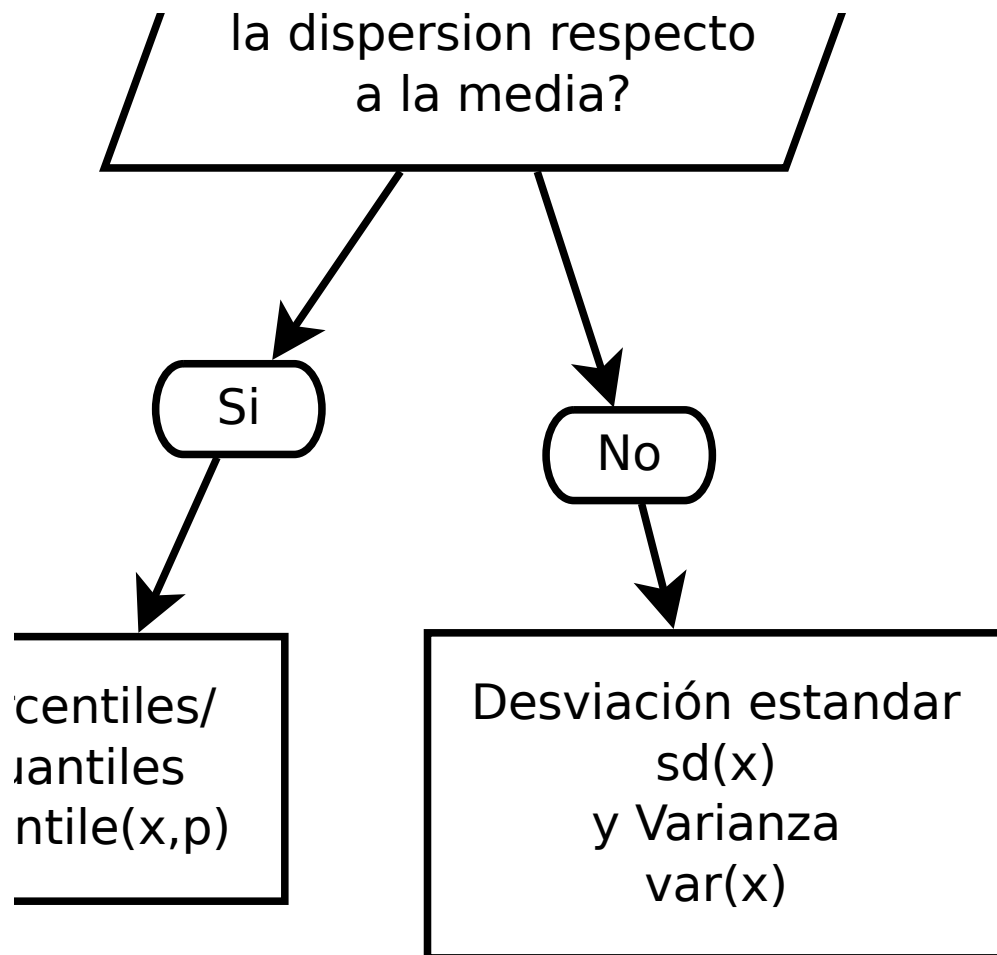


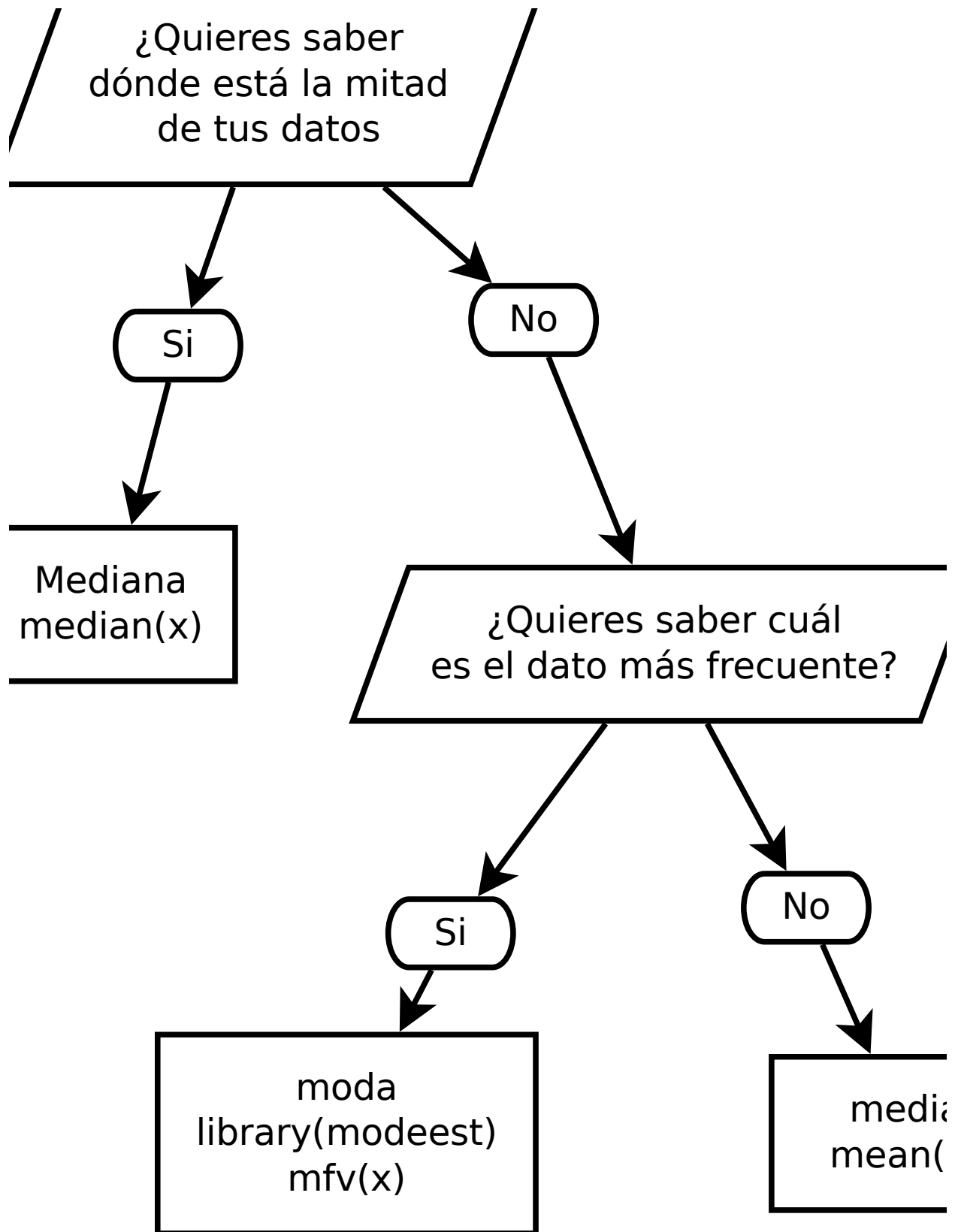
7

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qua





7

$\left[\begin{array}{l} a \\ x) \end{array} \right]$

