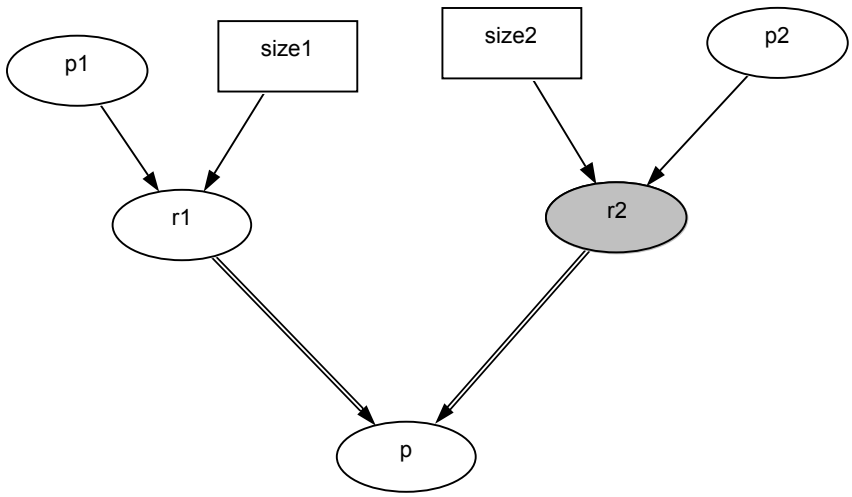
1 EXAMPLE 1 (BASHIR)

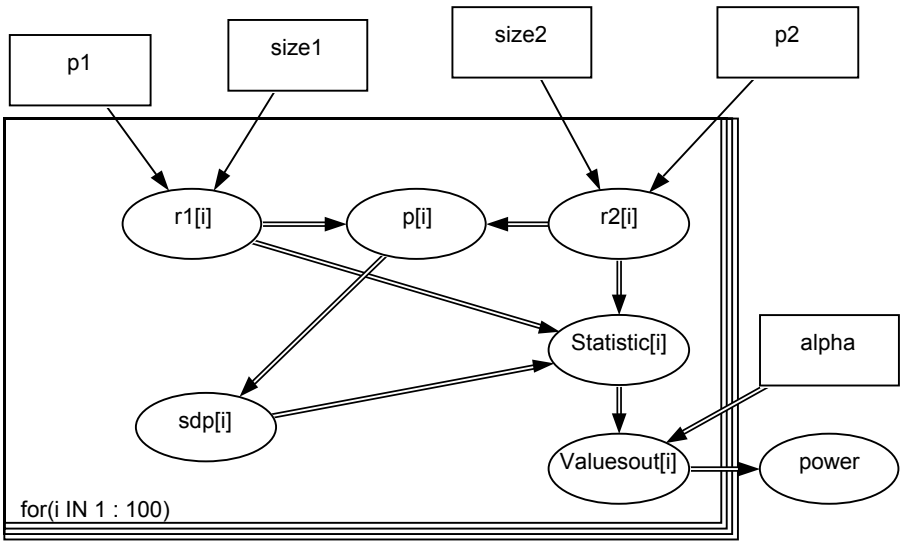
```
model;
{
   r1 ~ dbin(p1,size1)
   r2 ~ dbin(p2,size2)
   p <- (r1 + r2) / (size1 + size2)
   p1 ~ dnorm(0.25,38416)
   p2 ~ dnorm(0.35,38416)
}

list(size1=250, size2=150) # data
list(p1=0.25,p2=0.35)        # initial values
```

name:	r2	type:	stochastic	density:	dbin		
proportion	p2	order	size2	lower bound		upper bound	



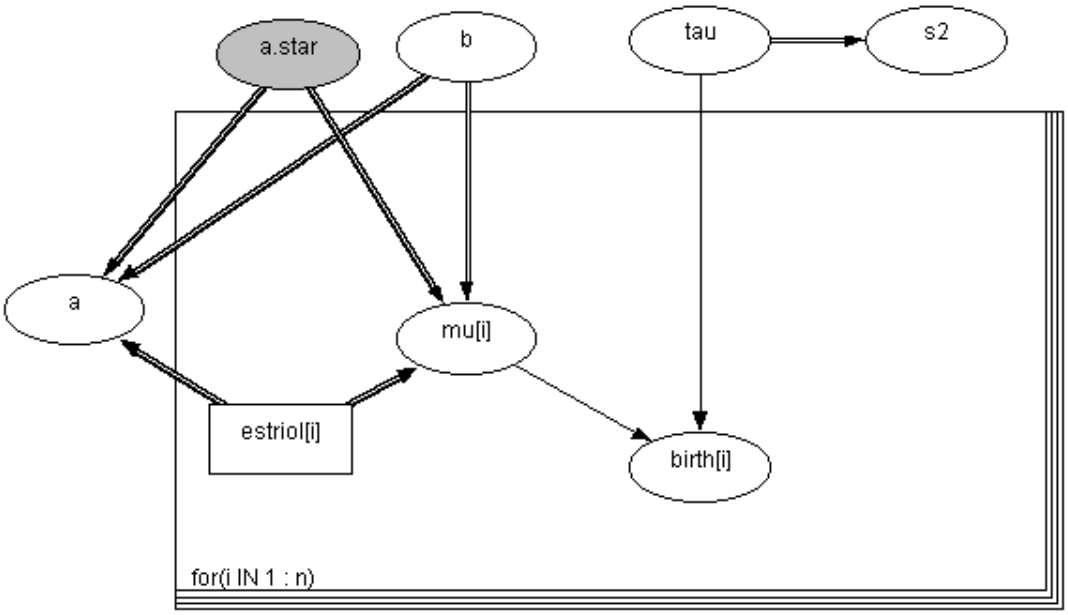
2 EXAMPLE 2 (BASHIR)

```
list(size1=250,size2=150, p1=0.25,p2=0.35,alpha=1.96) # data
model;
{
   for( i in 1 : 100 ) {
      r1[i] ~ dbin(p1,size1)
   }
   for( i in 1 : 100 ) {
      r2[i] ~ dbin(p2,size2)
   }
   for( i in 1 : 100 ) {
      p[i] <- (r1[i] + r2[i]) / (size1 + size2)
   }
   for( i in 1 : 100 ) {
      sdp[i] <- sqrt((p[i] * (1 - p[i])) * (1 / size1 + 1 / size2))
   }
   for( i in 1 : 100 ) {
      Statistic[i] <- (r1[i] / size1 - r2[i] / size2) / sdp[i]
   }
   for( i in 1 : 100 ) {
      Valuesout[i] <- step(abs(Statistic[i]) - alpha)
   }
   power <- mean(Valuesout[])
}
```



3 EXAMPLE 1: BIRTHWEIGHT & ESTRIOL LEVEL

```
{
#       definition of likelihood function
#
        for (i in 1:n) {
                birth[i]~dnorm( mu[i], tau ); # random component
                mu[i]<-a.star+b*(estriol[i]-mean(estriol[]));        # systematic
component
                                                #       & link function
        }
#       prior distributions
#
        a.star~dnorm( 0, 1.0E-04 ); # normal prior for a
        b~dnorm( 0, 1.0E-04 ); # normal prior for b
        tau~dgamma( 1.0E-04 , 1.0E-04 ); # gamma prior for precision
        s2<-1/tau;
        a<-a.star-b*mean(estriol[]);
}
list(a.star=0.0, b=0.0, tau=1.0) # initial values

# data
list(n=31)
estriol[] birth[]
7       25
9       25
9       25
12      27
14      27
16      27
16      24
14      30
16      30
16      31
17      30
19      31
21      30
24      28
15      32
16      32
17      32
25      32
27      34
15      34
15      34
15      35
16      35
19      34
18      35
17      36
18      37
20      38
22      40
25      39
24      43
```


a.star
b
tau
s2
a
mu[i]
estriol[i]
birth[i]
for(i IN 1 : n)

4 Example 2: BEETLES DATASET

```
model beetles;
{
 for (i in 1:N) {
   r[i] ~ dbin(p[i], n[i]);
   logit(p[i])   <- alpha.star + beta*(x[i]-mean(x[]));
   r.hat[i] <- p[i]*n[i];  # fitted values
 }
 alpha.star ~ dnorm(0.0, 1.0E-3);
 beta      ~ dnorm(0.0, 1.0E-3);
 alpha     <- alpha.star - beta*mean(x[]);
 odds.ratio <- exp( beta )
}
```

```
list(x = c(1.6907, 1.7242, 1.7552, 1.7842, 1.8113, 1.8369, 1.8610, 1.8839)     n = c(59, 60, 62, 56, 63, 59, 62, 60)     r =
c(6, 13, 18, 28, 52, 53, 61, 60), N=8)  #data
list(alpha.star=0, beta=0) #initial values
```