

```

model
{
# standardise values
for (i in 1:n){
  xs[i] $←$ (x[i]-mean(x[]))/sd(x[]);
  ys[i] $←$ (y[i]-mean(y[]))/sd(y[]);
  zs[i] $←$ (z[i]-mean(z[]))/sd(z[]);
}
# model likelihoods
for (i in 1:n){
  ys[i]~dnorm( mu[i,m], tau[m] );
  mu[i,1] $←$ alpha +beta *xs[i];
  mu[i,2] $←$ gamma +delta*zs[i];
}
# priors
m~dcat(p[]); # categorical 1/2
# p[1] $←$ 0.5; # "non-informative"
p[1] $←$ 0.9995; # "highly informative"
# p[1] $←$ 1.0; # 1st model
# p[1] $←$ 0.0; # 2nd model
p[2] $←$ 1-p[1];
mdl $←$ m-1
#
# alternative prior (bernoulli)
# m<-index+1
# index~dbern(p)
# p<-0.5
#
# priors for model parameters
alpha~dnorm(mu.alpha[m], tau.alpha[m]);
beta ~dnorm(mu.beta[m], tau.beta[m] );
gamma~dnorm(mu.gamma[m], tau.gamma[m]);
delta~dnorm(mu.delta[m], tau.delta[m]);
tau[1]~dgamma( r1[m], l1[m] );
tau[2]~dgamma( r2[m], l2[m] );
#
# prior parameters
mu.alpha[1] $←$ 0.0;
mu.beta[1] <0.0;
mu.gamma[2] $←$ 0.0;
mu.delta[2] $←$ 0.0;
tau.alpha[1] $←$ 1.0E-06
tau.beta[1] <1.0E-04;
tau.gamma[2] $←$ 1.0E-06;
tau.delta[2] $←$ 1.0E-04;
r1[1] $←$ 0.0001;
l1[1] $←$ 0.0001;
r2[2] $←$ 0.0001;
l2[2] $←$ 0.0001;
# pseudoparameters
mu.alpha[2] $←$ 0.0;
mu.beta[2] <0.93;
mu.gamma[1] $←$ 0.0;
mu.delta[1] $←$ 0.95;
tau.alpha[2] $←$ 273;
tau.beta[2] <279;
tau.gamma[1] $←$ 415;
tau.delta[1] $←$ 403;
r1[2] $←$ 20;
l1[2] $←$ 2.9;
r2[1] $←$ 20;
l2[1] $←$ 1.85;
}

```

## DATA

```

list(n=42, y = c(3040, 2470, 3610, 3480, 3810, 2330, 1800, 3110, 3160, 2310,
4360, 1880, 3670, 1740, 2250, 2650, 4970, 2620, 2900, 1670,
2540, 3840, 3800, 4600, 1900, 2530, 2920, 4990, 1670, 3310,
3450, 3600, 2850, 1590, 3770, 3850, 2480, 3570, 2620, 1890,
3030,3030),
x = c(29.2, 24.7, 32.3, 31.3, 31.5, 24.5, 19.9, 27.3, 27.1, 24.0,
33.8, 21.5, 32.2, 22.5, 27.5, 25.6, 34.5, 26.2, 26.7, 21.1,
24.1, 30.7, 32.7, 32.6, 22.1, 25.3, 30.8, 38.9, 22.1, 29.2,
30.1, 31.4, 26.7, 22.1, 30.3, 32.0, 23.2, 30.3, 29.9, 20.8,
33.2, 28.2),
z = c(25.4, 22.2, 32.2, 31.0, 30.9, 23.9, 19.2, 27.2, 26.3, 23.9,
33.2, 21.0, 29.0, 22.0, 23.8, 25.3, 34.2, 25.7, 26.4, 20.0,
23.9, 30.7, 32.6, 32.5, 20.8, 23.1, 29.8, 38.1, 21.3, 28.5,
29.2, 31.4, 25.9, 21.4, 29.8, 30.6, 22.6, 30.3, 23.8, 18.4,
29.4, 28.2))

```

## INITIAL VALUES

```

list(m=2, tau = c(1,1), alpha = 0, beta = 0, gamma = 0, delta = 0)

```