```
model{

# Set Prior Constants For Population precision parameters (note: 3 prior observations
yields better convergence)

m0<-3

var0<-1

a1<-m0/2

a2<-m0*var0/2

# Set A3

for(i in 1:IDs){
  for(scen in 1:scens){
        for(j in 1:prods){
                    for(att in 1:atts2){

                      A3[scen+scens*(i-1),j,att]<-A2[scen+scens*(i-1),att]*z[j,att]
                                }
                     }
```

```
                    }
}


# Loop Through Product categories (all except 1)

for(j in 1:(prods-1)){

        # Prior Mean and Precision for population

        mu[j]~dnorm(0,0.01)
        Precb[j]~dgamma(a1,a2)
        myvar[j]<-1/Precb[j]


                                        }

        # Priors for Product Coefficients

        for(att in 1:atts2){
                                                delta[att]~dnorm(0,0.01)
                                                }
```

```
        # Loop Through IDs

for(i in 1:IDs){

                                    # Loop Through Product Categories

                        for(j in 1:(prods-1)){

                                    # Draw Intercepts

                                    b[i,j]~dnorm(0,Precb[j])

                                                        }

                # Loop through scenarios

        for(scen in 1:scens){

                # Loop Through Tiers (all except 1)

                for(j in 1:(prods-1)){

                                    u[i,scen,j]<-
exp(mu[j]+b[i,j]+inprod(delta[],A3[scen+scens*(i-1),j,]))
```

```
                    }

        u[i,scen,prods]<-exp(inprod(delta[],A3[scen+scens*(i-1),prods,]) )

    w[i,scen]<-sum(u[i,scen,])

    for(j in 1:(prods)){

    p[i,scen,j]<-u[i,scen,j]/w[i,scen]
                    }

#   Y[scen+scens*(i-1),1:prods]~dmulti(p[i,scen,1:prods],1)
    Y[scen+scens*(i-1),1:prods]~dmulti(p[i,scen,1:prods],N[scen+scens*(i-1)])

                    }
```

```
                                    }
        }
```