```
library(BLR)

# Set up the simulation

 n      <- 40       # Sample size
 p_null <- 15       # Number of null covariates
 p_act  <- 5        # Number of active covariates
 nsims  <- 100      # Number of simulated datasets
 sigma  <- 1        # True value of sigma

 # True value of beta
 beta   <- c(rep(0,p_null),rep(1,p_act))

# Define matrices to store the results
 p    <- p_null + p_act
 EST1 <- matrix(0,nsims,p)
 VAR1 <- matrix(0,nsims,p)
 EST2 <- matrix(0,nsims,p)
 VAR2 <- matrix(0,nsims,p)

# Start the simulation

 set.seed(0820*n*(p_null+5)*(p_act+1))

 for(sim in 1:nsims){


  # Generate a dataset
    X <- matrix(rnorm(n*p),n,p)
    Y <- X%*%beta+rnorm(n,0,sigma)

  # Fit ordinary least squares
    ols        <- summary(lm(Y~X))$coef[-1,]
    EST1[sim,] <- ols[,1]
    VAR1[sim,] <- ols[,2]^2

  # Fit the Bayesian LASSO
    blr        <- BLR(y=Y,XL=X)
    EST2[sim,] <- blr$bL
    VAR2[sim,] <- blr$SD.bL^2
  }

# Compute the results

 E    <- sweep(EST1,2,beta,"-")
 MSE  <- mean(E^2)
 BIAS <- mean(E)
 VAR  <- mean(VAR1)
 COV  <- mean(abs(E/sqrt(VAR1))<2)

 E    <- sweep(EST2,2,beta,"-")
 MSE  <- c(MSE,mean(E^2))
 BIAS <- c(BIAS,mean(E))
 VAR  <- c(VAR,mean(VAR2))
 COV  <- c(COV,mean(abs(E/sqrt(VAR2))<2))

 out <- round(100*c(BIAS,VAR,MSE,COV),2)

 n
 p_null
 p_act
 out
```