**Multiple Regression Dataset**

### Generate dataset.

library(data.table)  
set.seed(12345)  
adosleep <- data.table(  
 SOLacti = rnorm(150, 4.4, 1.3)^2,  
 DBAS = rnorm(150, 72, 26),  
 DAS = rnorm(150, 125, 32),  
 Female = rbinom(150, 1, .53),  
 Stress = rnorm(150, 32, 11))  
adosleep[, SSQ := rnorm(150,  
 (.36\*3/12.5)\*SOLacti +  
 (.16\*3/26)\*DBAS +  
 (.18\*3/.5)\*Female +  
 (.20\*3/11)\*Stress,2.6)]  
adosleep[, MOOD := rnorm(150,  
 (-.07/12.5)\*SOLacti +  
 (.29/3)\*SSQ +  
 (.14/26)\*DBAS +  
 (.21/32)\*DAS +   
 (.12/32)\*SSQ\*(DAS-50) +  
 (.44/.5)\*Female +  
 (.28/11)\*Stress, 2)]  
adosleep[, Female := factor(Female, levels=0:1, labels = c("Males", "Females"))]  
  
  
# Display the synthetic dataset  
adosleep

## SOLacti DBAS DAS Female Stress SSQ MOOD  
## 1: 26.63786 29.89746 141.71303 Males 34.46721 0.0351776 3.135512  
## 2: 28.32694 86.25835 125.31340 Females 40.65050 10.8613493 5.763634  
## 3: 18.12976 77.07734 110.90316 Males 27.34301 5.6395828 2.695476  
## 4: 14.51956 51.03105 163.38367 Females 27.95713 5.2300021 4.148444  
## 5: 26.91175 69.17577 121.24101 Females 12.56278 5.4454510 3.648391  
## ---   
## 146: 26.03265 76.77716 141.02786 Males 27.77196 7.6259684 7.044688  
## 147: 5.70503 16.09193 95.89703 Females 16.28171 1.0325290 1.557178  
## 148: 30.30006 55.80287 54.68933 Females 42.59759 4.8613652 4.189277  
## 149: 30.96719 52.09858 139.03345 Females 38.75160 12.9784500 8.158078  
## 150: 20.97913 84.07204 92.05873 Females 27.94590 5.8835742 5.623150