

# Homework 5

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## 1 Problem 1

The solution is  $-1.2571e + 03$ .

## 2 Problem 2

The solution is  $-1.2595e + 03$ .

## 3 Problem 3a

The starting value for  $[\gamma, \beta, \sigma_\beta]$  is  $[1, 1, 1]$ , the solution is  $[-0.5060, 2.4937, 1.3738]$ , taking the value: 536.7241.

## 4 Problem 3b

The starting value for  $[\gamma, \beta, \sigma_\beta]$  is  $[1, 1, 1]$ , the solution is  $[-0.4743, 2.0115, 1.3397]$ , taking the value: 539.3724.

## 5 Problem 4

The starting value for  $[\gamma, \beta, \sigma_u, \sigma_\beta, \sigma_{u\beta}]$  is  $[1, 1, 1, 1, 0.1]$ , the solution  $[-0.5280, 1.2679, 1.3756, 1.6619, 0.1080]$  taking the value: 506.0013.