Question 2:

a)beta\_google = [[ 0.972418 ]

[ 0.11638939]

[-0.05976406]

[ 0.09612596]

[-0.12852937]

[-0.00980568]

[ 0.15139532]

[-0.29741633]

[ 0.00540602]

[ 0.10566926]

[ 0.13221014]

[ 0.00756514]

[-0.1938107 ]

[ 0.04522622]

[ 0.15606427]

[-0.12258619]

[ 0.07420027]

[-0.06340122]

[ 0.05128467]

[ 0.07293469]

[-0.03091741]

[-0.28330517]

[ 0.12125608]

[ 0.10964465]

[-0.020585 ]]

beta\_nvs = [[ 0.03706115]

[ 0.00104924]

[ 0.01266251]

[-0.00282346]

[-0.00727426]

[-0.01125781]

[-0.00948761]

[-0.00576924]

[ 0.01328144]

[ 0.0074245 ]

[ 0.01325792]

[ 0.00787762]

[-0.00309012]

[-0.00468161]

[-0.00125365]

[-0.01241019]

[ 0.00915506]

[-0.01628821]

[-0.00320799]

[ 0.00618895]

[ 0.00526178]

[ 0.00205664]

[ 0.00033148]

[-0.00443225]

[ 0.05002943]]

b) yg\_new = [998.1844329833984, 997.0433690547943, 995.0823550224304, 998.6028189659119, 997.9144492149353, 987.9993662834167, 995.8551015853882, 993.9743580818176, 1001.9509496688843, 1004.682297706604, 996.7907781600952, 998.4292449951172, 1001.3407363891602, 1001.3433766365051, 998.698401927948, 997.1628847122192, 995.9384422302246, 996.0645823478699, 999.9687957763672, 993.1608441770077, 996.0183399319649, 997.9253299832344, 1002.2404371500015, 1004.9797838926315, 998.5214434862137, 1003.2058618068695, 1000.724109172821, 1002.7582211494446, 986.7079577445984, 998.0519032478333]

yn\_new = [64.51710009947419, 70.972740650177, 68.86039793491364, 58.42208206653595, 62.119205594062805, 63.55102062225342, 69.44709718227386, 63.794586062431335, 69.9632179737091, 62.82054543495178, 64.90728378295898, 63.437166810035706, 70.02930134534836, 68.99475902318954, 66.70873433351517, 62.33013108372688, 70.00107809901237, 68.4783086925745, 61.29103139042854, 60.32646234147251, 65.06960324943066, 65.18667832016945, 67.05359235405922, 58.905125092715025, 59.937893897295, 63.99095490574837, 56.92184641957283, 60.5745792388916, 63.097473084926605, 70.11898547410965]

c) 

