Computer Homework 4

Output:

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Oscar Martinez   Computer Homework 4   Metrics III
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Probit Model
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Probit Model - The dependent variable is: sold
The data set is: mls2

Grad:     0.8745    LogL:  -186.0619    Size:   1.000
Grad:     0.1664    LogL:  -185.9866    Size:   1.000
Grad:     0.0433    LogL:  -185.9841    Size:   1.000
Grad:     0.0070    LogL:  -185.9839    Size:   1.000
Grad:     0.0021    LogL:  -185.9839    Size:   1.000
Grad:     0.0005    LogL:  -185.9839    Size:   1.000
Grad:     0.0002    LogL:  -185.9839    Size:   1.000
Grad:     0.0000    LogL:  -185.9839    Size:   1.000

Regressor  Coefficient  Std. Error   t-stat       Prob>|t|
------------------------------------------------------------
Con          -0.99534       0.84505      -1.17785       0.23987
age          -0.00943       0.00916      -1.02923       0.30427
lot          -0.00193       0.00155      -1.24565       0.21395
sqft         -0.03115       0.24047      -0.12955       0.89702
beds          0.07050       0.16585       0.42507       0.67112
gar           0.45793       0.18757       2.44135       0.01526
mfi           0.00358       0.01557       0.22969       0.81850
pmin          0.95717       0.79693       1.20108       0.23075
paved         0.57700       0.28833       2.00121       0.04635
fin          -0.33356       0.16818      -1.98331       0.04832
vac           0.33009       0.16634       1.98447       0.04819
trav         -0.00659       0.02395      -0.27527       0.78332
ap            0.00112       0.00401       0.27970       0.77992

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Logit Model
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Logit Model - The dependent variable is: sold
The data set is: mls2

Grad:     1.3956    LogL:  -186.0331    Size:   1.000
Grad:     0.2255    LogL:  -185.9037    Size:   1.000
Grad:     0.0921    LogL:  -185.8931    Size:   1.000
Grad:     0.0100    LogL:  -185.8909    Size:   1.000
Grad:     0.0081    LogL:  -185.8903    Size:   1.000
Grad:     0.0011    LogL:  -185.8902    Size:   1.000
Grad:     0.0015    LogL:  -185.8901    Size:   1.000
Grad:     0.0004    LogL:  -185.8901    Size:   1.000
Grad:     0.0004    LogL:  -185.8901    Size:   1.000
Grad:     0.0001    LogL:  -185.8901    Size:   1.000
Grad:     0.0001    LogL:  -185.8901    Size:   1.000

Regressor  Coefficient  Std. Error   t-stat       Prob>|t|
------------------------------------------------------------
Con          -1.51336       1.37973      -1.09685       0.27366
age          -0.01622       0.01498      -1.08301       0.27974
lot          -0.00369       0.00264      -1.39824       0.16316
sqft         -0.04043       0.39108      -0.10338       0.91774
beds          0.10873       0.26890       0.40435       0.68627
gar           0.74951       0.30849       2.42957       0.01575
mfi           0.00469       0.02532       0.18536       0.85308
pmin          1.52857       1.29790       1.17772       0.23992
paved         0.90703       0.47600       1.90554       0.05775
fin          -0.54943       0.27430      -2.00305       0.04615
vac           0.51991       0.27060       1.92132       0.05572
trav         -0.01163       0.03900      -0.29818       0.76579
ap            0.00187       0.00647       0.28912       0.77271

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Code:

```
%-----Starting from scratch-----
clc
clear

%Diary
diary CHW4_Output_Oscar_Martinez.txt

```

```
8  %Introduction
9  fprintf('————————————————————————————————————————————————————————————\n')
       ;
10 fprintf('Oscar Martinez \t Computer Homework 4 \t Metrics III\n');
11 fprintf('————————————————————————————————————————————————————————————\n')
       ;
12
13 fprintf('————————————————————————————————————————————————————————————\n')
       ;
14 fprintf('\t \t  Probit Model \n');
15 fprintf('————————————————————————————————————————————————————————————\n')
       ;
16
17 %Importing the data:
18 load mls.txt;
19
20 %Creating Variables from columns of imported data
21 t = mat2cell(mls, size(mls,1), ones(1,size(mls,2)));
22 [sp age lot sqft beds gar mfi pmin paved fin vac trav days ap] = deal(t{:})
       ;
23
24 %Removing extraneous variables
25 clear t mls;
26
27 %saving as .mat
28 save mls.mat
29
30 %Creating new, needed variables
31 sold=sp>0; sqft2=sqft.^2; lsp = log(sp+(1-sold));
32
33 %Saving updated data
34 save mls2.mat
35
36 %Clearing workspace for models
37 clear
38
39 %Note: commented out the clc from the function
40 %-----Probit Model-----
41 %Creating needed variables:
42 data='mls2'; dep='sold'; ind='age     lot     sqft    beds    gar     mfi
          pmin    paved   fin     vac     trav    ap      ';
43 beta=zeros(13,1);
44 beta=probit(data,dep,ind,beta);
45
46 %Modifying the output for ease of viewing
```

```
47 fprintf('\n');
48 fprintf('--------------------------------------------------------------------------------\n')
       ;
49 fprintf('--------------------------------------------------------------------------------\n')
       ;
50 fprintf('\n');
51 fprintf('--------------------------------------------------------------------------------\n')
       ;
52 fprintf('\t \t  Logit Model \n');
53 fprintf('--------------------------------------------------------------------------------\n')
       ;
54
55 %------Logit Model------
56 %Resetting the beta
57 beta=zeros(13,1);
58
59 %Running the function
60 beta=zlogit(data,dep,ind,beta);
61
62 %Aesthetics
63 fprintf('\n');
64 fprintf('--------------------------------------------------------------------------------\n')
       ;
65 fprintf('--------------------------------------------------------------------------------\n')
       ;
66
67 %closing output
68 diary off
69
70 %------Changes made to function files------
71 %The changes made, other than renaming anything the prefix prob to (z)log
       and commenting out the clc, were:
72 % -> In zlogit_bhhh.m:
73 % Created variables mu and  sigma with values 0 and 1, respectively.
74 % Used zlog=makedist('Logistic','mu',mu,'sigma',sigma); to define a
       Logistic distribution.
75 % Replaced fl=normpdf(xb); with fl=pdf(zlog,xb); and fb=normcdf(xb); with
       fb=cdf(zlog,xb);.
76 % -> In zlogit_logl.m:
77 % Created variables mu and  sigma with values 0 and 1, respectively.
78 % Used zlog=makedist('Logistic','mu',mu,'sigma',sigma); to define a
       Logistic distribution.
79 % Replaced fb=normcdf(xb); with fb=cdf(zlog,xb);.
```