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**CSE 516 Machine Learning**

**Dr.Zhang**

**Exercise 1**



Calculating the selling price

Plug into regression model

**Exercise 2**

**Exercise 3**



**Exercise 4**

=== Run information ===

Scheme: weka.classifiers.functions.MultilayerPerceptron -L 0.6 -M 0.3 -N 1000 -V 0 -S 0 -E 20 -H a -R

Test mode: 10-fold cross-validation

=== Classifier model (full training set) ===

Sigmoid Node 0

Inputs Weights

Threshold 3.1833176945649644

Node 2 14.225838418997263

Node 3 9.739156153683277

Node 4 13.852423275352146

Node 5 -11.147259457531561

Node 6 -3.705660906712062

Node 7 -5.840411014490527

Node 8 7.792325033416553

Node 9 -9.811245330567887

Sigmoid Node 1

Inputs Weights

Threshold -3.180765388999337

Node 2 -14.225425470404886

Node 3 -9.738730812461402

Node 4 -13.852412475836186

Node 5 11.145074156444597

Node 6 3.6958990663342397

Node 7 5.797294742636429

Node 8 -7.78916540123572

Node 9 9.847830248436296

Sigmoid Node 2

Inputs Weights

Threshold -4.134940286274305

Attrib x\_box -0.007921512179296987

Attrib y\_box 3.3640742496588594

Attrib width -0.17454019970588702

Attrib high -1.4964776625150153

Attrib onpix 0.2937683781670992

Attrib x\_bar -2.3879370888411486

Attrib y\_bar -0.6212674531545926

Attrib x2bar -13.709937788850828

Attrib y2bar 4.880867526817545

Attrib xybar -5.205408186222367

Attrib x2ybr 3.880727345032481

Attrib x\_ege 6.208966450341695

Attrib xegvy 1.0135658565373862

Attrib y\_ege -0.06146150954225818

Attrib yegvx 2.828583209731048

Sigmoid Node 3

Inputs Weights

Threshold -4.879186503588658

Attrib x\_box 2.5752286090796868

Attrib y\_box 3.4516735562567504

Attrib width -2.563063429110205

Attrib high -2.1109531425487287

Attrib onpix -1.0802054866189053

Attrib x\_bar 3.131479067903176

Attrib y\_bar 1.7960286783408748

Attrib x2bar -1.1798943628978622

Attrib y2bar -0.09588261130432152

Attrib xybar 8.94918189308226

Attrib x2ybr 4.952222416862302

Attrib x\_ege -1.2121410923340659

Attrib xegvy 1.68928059509615

Attrib y\_ege 1.738124553828816

Attrib yegvx 1.743437662457994

Sigmoid Node 4

Inputs Weights

Threshold -10.755251118052726

Attrib x\_box 2.385303752526826

Attrib y\_box 0.6917487724743955

Attrib width -3.5699714008305663

Attrib high -1.437144138717523

Attrib onpix -0.2528569227478181

Attrib x\_bar -8.959175145165908

Attrib y\_bar 10.312211280786498

Attrib x2bar -3.1906141974905773

Attrib y2bar 9.939549461288873

Attrib xybar 1.0076520303801795

Attrib x2ybr -0.7285572992903508

Attrib x\_ege 6.943392738813299

Attrib xegvy -7.340515416147107

Attrib y\_ege 0.3667819443303884

Attrib yegvx -1.8216517639575343

Sigmoid Node 5

Inputs Weights

Threshold -2.9321862749174756

Attrib x\_box 3.866642965778156

Attrib y\_box 2.351850299060437

Attrib width -4.372699921224437

Attrib high 2.821963059662965

Attrib onpix -3.9172875408457615

Attrib x\_bar -5.103596963825103

Attrib y\_bar -8.763630112771905

Attrib x2bar -7.411113735454861

Attrib y2bar 0.9768034714864706

Attrib xybar -0.6235898147349898

Attrib x2ybr -5.190815473674098

Attrib x\_ege 0.3419068733980031

Attrib xegvy -14.136589851999661

Attrib y\_ege -5.958502467947922

Attrib yegvx 5.912196426455215

Sigmoid Node 6

Inputs Weights

Threshold -2.5970301961411497

Attrib x\_box -0.5168848757436734

Attrib y\_box 0.7295413914043001

Attrib width 2.208920299268996

Attrib high 0.7927367673375993

Attrib onpix 2.93921066215828

Attrib x\_bar 0.7761997573895179

Attrib y\_bar -4.4662879347086

Attrib x2bar 1.6765051618556592

Attrib y2bar -2.634400406254153

Attrib xybar 0.9468391362673946

Attrib x2ybr -0.6954673453480951

Attrib x\_ege -3.1725933154917425

Attrib xegvy -3.6683614192903904

Attrib y\_ege -2.2396885538257982

Attrib yegvx -0.20117085517306035

Sigmoid Node 7

Inputs Weights

Threshold -2.8728296948361467

Attrib x\_box 0.043057685102420466

Attrib y\_box -0.5406022576570081

Attrib width 1.1416140479282366

Attrib high -1.8583347319300816

Attrib onpix 2.8271030296387503

Attrib x\_bar 4.6752208023170905

Attrib y\_bar 1.1661181591992027

Attrib x2bar -0.9197263421033047

Attrib y2bar -2.5869254238997916

Attrib xybar -1.675097182326714

Attrib x2ybr -1.969923240338941

Attrib x\_ege -4.281257127768675

Attrib xegvy 1.5327986944081617

Attrib y\_ege -0.018899202296639616

Attrib yegvx 0.7376690234111022

Sigmoid Node 8

Inputs Weights

Threshold -0.3847692651635447

Attrib x\_box 0.6153858617561999

Attrib y\_box 3.83074612524702

Attrib width 2.4950268164054163

Attrib high -4.0765392600129875

Attrib onpix -1.5900287093555352

Attrib x\_bar 5.254528209623431

Attrib y\_bar 0.2656054162867221

Attrib x2bar 4.84430156661579

Attrib y2bar 0.06145119622389758

Attrib xybar 2.9937724175472376

Attrib x2ybr -0.473648127096463

Attrib x\_ege -2.870871062534343

Attrib xegvy 7.609022257448097

Attrib y\_ege -2.3343694692971653

Attrib yegvx -5.503146279249402

Sigmoid Node 9

Inputs Weights

Threshold -4.0008813303843915

Attrib x\_box 0.2208684088641214

Attrib y\_box 0.6641477003377609

Attrib width 2.1370556649032433

Attrib high -2.572725742095815

Attrib onpix 3.721811963984678

Attrib x\_bar 6.336565003396228

Attrib y\_bar 0.36235049340341147

Attrib x2bar -1.7539523906319934

Attrib y2bar -4.505871122828394

Attrib xybar -1.840013421973668

Attrib x2ybr -4.855659467199382

Attrib x\_ege -8.274017821888835

Attrib xegvy 0.3578689759060931

Attrib y\_ege -0.029671732087851746

Attrib yegvx 1.1038659060202318

Class C

Input

Node 0

Class G

Input

Node 1