```
>> TreeBagger(d)
Undefined function or variable 'd'.
>> ? ? TreeBagger
 ? ? TreeBagger
Error: The input character is not valid in MATLAB statements or expressions.
>> help(TreeBagger)
Error using TreeBagger (line 531)
Not enough input arguments.
>> TreeBagger(Y,X,Xtest)
Error using classreg.learning.FullClassificationRegressionModel.prepareDataCR (line 138)
X and Y do not have the same number of observations.
Error in ClassificationTree.prepareData (line 482)
            [X,Y,W,dataSummary] = ...
Error in TreeBagger/init (line 1190)
                 [bagger.X,y,bagger.W,bagger.DataSummary,classSummary] = ...
Error in TreeBagger (line 531)
            bagger = init(bagger, X, Y, makeArgs{:});
>> TreeBagger(Y,X)
Error using TreeBagger (line 531)
Not enough input arguments.
>> fitctree(X,Y)
ans =
  ClassificationTree
           PredictorNames: {1x27 cell}
             ResponseName: 'Y'
               ClassNames: [0 1]
           ScoreTransform: 'none'
    CategoricalPredictors: []
          NumObservations: 885
  Properties, Methods
>> View
Cannot find an exact (case-sensitive) match for 'View'
The closest match is: view in /Applications/MATLAB_R2014b. ✓
app/toolbox/matlab/graph3d/view.m
Did you mean:
>> view
ans =
    1.0000
                   0
                                  -0.5000
              1.0000
                                  -0.5000
         0
```

```
0
                       -1.0000
         0
                                   9.1603
                   0
         0
                             0
                                   1.0000
>> a=fitctree(X,Y)
a =
 ClassificationTree
           PredictorNames: {1x27 cell}
             ResponseName: 'Y'
               ClassNames: [0 1]
           ScoreTransform: 'none'
    CategoricalPredictors: []
          NumObservations: 885
  Properties, Methods
>> view(a)
Decision tree for classification
  1 if x2<0.5 then node 2 elseif x2>=0.5 then node 3 else 0
     if x1<2.5 then node 4 elseif x1>=2.5 then node 5 else 1
     if x24<0.5 then node 6 elseif x24>=0.5 then node 7 else 0
    if x6<272 then node 8 elseif x6>=272 then node 9 else 1
    if x7<23.35 then node 10 elseif x7>=23.35 then node 11 else 0
    if x3<17.5 then node 12 elseif x3>=17.5 then node 13 else 0
     if x3<3.5 then node 14 elseif x3>=3.5 then node 15 else 0
     class = 0
     if x6<237670 then node 16 elseif x6>=237670 then node 17 else 1
     if x3<36.5 then node 18 elseif x3>=36.5 then node 19 else 1
    if x5<0.5 then node 20 elseif x5>=0.5 then node 21 else 0
 11
    if x6 < 31157.5 then node 22 elseif x6 > = 31157.5 then node 23 else 0
 13
    if x4<2 then node 24 elseif x4>=2 then node 25 else 1
     if x6<1840 then node 26 elseif x6>=1840 then node 27 else 0
     if x3<2.5 then node 28 elseif x3>=2.5 then node 29 else 1
     if x6<237704 then node 30 elseif x6>=237704 then node 31 else 1
 17
    if x6 < 366226 then node 32 elseif x6 > = 366226 then node 33 else 1
 19
    class = 0
 20
    class = 1
 21
    class = 0
     if x6 < 8743 then node 34 elseif x6 > = 8743 then node 35 else 0
 23
     if x21<0.5 then node 36 elseif x21>=0.5 then node 37 else 0
     class = 1
 24
 25
     class = 0
 26
    if x6<1593 then node 38 elseif x6>=1593 then node 39 else 0
 27
     if x14<0.5 then node 40 elseif x14>=0.5 then node 41 else 0
 28
     class = 0
 29
     if x19<0.5 then node 42 elseif x19>=0.5 then node 43 else 1
     class = 0
    class = 1
 31
 32
    if x6<345668 then node 44 elseif x6>=345668 then node 45 else 1
 33
    class = 1
 35
     if x7 < 98.7521 then node 46 elseif x7 > 98.7521 then node 47 else 1
     if x3<28.5 then node 48 elseif x3>=28.5 then node 49 else 0
 36
 37
     class = 1
```

```
38 \text{ class} = 0
39
   class = 1
   if x3<13 then node 50 elseif x3>=13 then node 51 else 0
41
   if x3<37 then node 52 elseif x3>=37 then node 53 else 0
42
   if x6<11709.5 then node 54 elseif x6>=11709.5 then node 55 else 1
43
   class = 1
   if x7 < 8.0396 then node 56 elseif x7 > = 8.0396 then node 57 else 1
45
   if x6<347080 then node 58 elseif x6>=347080 then node 59 else 0
   if x3<49.5 then node 60 elseif x3>=49.5 then node 61 else 1
46
   if x7 < 387.665 then node 62 elseif x7 > 387.665 then node 63 else 0
48
   class = 0
49
   if x7<116.638 then node 64 elseif x7>=116.638 then node 65 else 0
   if x4<2 then node 66 elseif x4>=2 then node 67 else 0
51
   if x1<1.5 then node 68 elseif x1>=1.5 then node 69 else 0
52
   class = 0
53
    class = 1
54
   if x6 < 8701.5 then node 70 elseif x6 > = 8701.5 then node 71 else 1
55
56
   if x15<0.5 then node 72 elseif x15>=0.5 then node 73 else 1
57
   if x7<16.4 then node 74 elseif x7>=16.4 then node 75 else 0
58
   class = 0
59
   if x6<348489 then node 76 elseif x6>=348489 then node 77 else 0
   if x6<17581 then node 78 elseif x6>=17581 then node 79 else 1
61
   class = 0
   class = 0
62
63
   class = 1
64
   class = 0
65
   class = 1
   class = 1
66
67
   class = 0
68
   if x4<1.5 then node 80 elseif x4>=1.5 then node 81 else 0
   if x25<0.5 then node 82 elseif x25>=0.5 then node 83 else 0
69
70
   class = 1
   class = 0
71
72
   class = 1
73
   class = 0
74
   if x6 < 2662 then node 84 elseif x6 > 2662 then node 85 else 0
75
   class = 1
76
   class = 1
77
   if x6 < 364681 then node 86 elseif x6 > = 364681 then node 87 else 0
78
79
    if x6<19935.5 then node 88 elseif x6>=19935.5 then node 89 else 0
80
    if x7<30.5979 then node 90 elseif x7>=30.5979 then node 91 else 0
81
82
   if x3<32.5 then node 92 elseif x3>=32.5 then node 93 else 0
83
   if x7<15.1479 then node 94 elseif x7>=15.1479 then node 95 else 0
84
   class = 1
85
   if x6 < 356849 then node 96 elseif x6 > = 356849 then node 97 else 0
86
87
    class = 0
88
   class = 0
89
   class = 1
   if x6<65699 then node 98 elseif x6>=65699 then node 99 else 0
91
   class = 0
92
   if x3<30.75 then node 100 elseif x3>=30.75 then node 101 else 0
    if x6 < 9402 then node 102 elseif x6 > = 9402 then node 103 else 0
   if x6 < 2621.5 then node 104 elseif x6 > 2621.5 then node 105 else 0
   if x7 < 20.2334 then node 106 elseif x7 > 20.2334 then node 107 else 0
```

```
96 if x25<0.5 then node 108 elseif x25>=0.5 then node 109 else 0
97
    class = 1
    class = 0
99
    class = 1
100
    if x7<7.7979 then node 110 elseif x7>=7.7979 then node 111 else 0
    if x6<5689.5 then node 112 elseif x6>=5689.5 then node 113 else 0
102
103
    if x6<238832 then node 114 elseif x6>=238832 then node 115 else 0
104
    class = 0
105
    if x3<29.5 then node 116 elseif x3>=29.5 then node 117 else 0
106
    class = 1
107
    class = 0
108
    class = 0
109
    class = 1
    if x7<7.74585 then node 118 elseif x7>=7.74585 then node 119 else 0
110
111
    if x9<0.5 then node 120 elseif x9>=0.5 then node 121 else 0
112
    class = 1
    class = 0
113
114
    if x6<237682 then node 122 elseif x6>=237682 then node 123 else 0
115
    class = 0
116
    if x3<28.75 then node 124 elseif x3>=28.75 then node 125 else 0
    if x6 < 2680 then node 126 elseif x6 > = 2680 then node 127 else 0
117
118
    if x6<19270 then node 128 elseif x6>=19270 then node 129 else 0
    class = 0
119
    if x3<26.5 then node 130 elseif x3>=26.5 then node 131 else 0
120
121
    if x3<19.5 then node 132 elseif x3>=19.5 then node 133 else 0
122
    class = 0
123
    class = 1
124
    class = 0
125
    class = 1
126
    if x6<2675.5 then node 134 elseif x6>=2675.5 then node 135 else 0
    class = 0
127
128
    class = 0
129
    if x7<7.0125 then node 136 elseif x7>=7.0125 then node 137 else 0
    if x13<0.5 then node 138 elseif x13>=0.5 then node 139 else 0
130
131
    if x7 < 8.08125 then node 140 elseif x7 > = 8.08125 then node 141 else 0
132
    class = 1
133
    class = 0
134
    class = 0
135
    class = 1
136
    if x7<6.9625 then node 142 elseif x7>=6.9625 then node 143 else 0
137
    class = 0
138
    class = 0
139
    class = 1
140
    class = 0
141
    if x7<10 then node 144 elseif x7>=10 then node 145 else 0
142
    class = 0
143
    class = 1
144
    if x3<27.5 then node 146 elseif x3>=27.5 then node 147 else 0
145
    if x6 < 244366 then node 148 elseif x6 > 244366 then node 149 else 0
146
    class = 1
    class = 0
147
148
    class = 0
149
    if x4<1.5 then node 150 elseif x4>=1.5 then node 151 else 0
    if x6<246550 then node 152 elseif x6>=246550 then node 153 else 0
150
151
    class = 1
    class = 1
152
153
    class = 0
```

```
>> view
ans =
    1.0000
                                 -0.5000
                                  -0.5000
              1.0000
         0
                             0
                       -1.0000
                                  9.1603
         0
                   0
                   0
                             0
                                  1.0000
>> view(a)
Decision tree for classification
    if x2<0.5 then node 2 elseif x2>=0.5 then node 3 else 0
    if x1<2.5 then node 4 elseif x1>=2.5 then node 5 else 1
     if x24<0.5 then node 6 elseif x24>=0.5 then node 7 else 0
     if x6<272 then node 8 elseif x6>=272 then node 9 else 1
    if x7<23.35 then node 10 elseif x7>=23.35 then node 11 else 0
    if x3<17.5 then node 12 elseif x3>=17.5 then node 13 else 0
    if x3<3.5 then node 14 elseif x3>=3.5 then node 15 else 0
    class = 0
    if x6 < 237670 then node 16 elseif x6 > 237670 then node 17 else 1
    if x3<36.5 then node 18 elseif x3>=36.5 then node 19 else 1
    if x5<0.5 then node 20 elseif x5>=0.5 then node 21 else 0
 12
    class = 1
 13
    if x6<31157.5 then node 22 elseif x6>=31157.5 then node 23 else 0
    if x4<2 then node 24 elseif x4>=2 then node 25 else 1
    if x6<1840 then node 26 elseif x6>=1840 then node 27 else 0
 15
    if x3<2.5 then node 28 elseif x3>=2.5 then node 29 else 1
 17
     if x6<237704 then node 30 elseif x6>=237704 then node 31 else 1
 18
    if x6<366226 then node 32 elseif x6>=366226 then node 33 else 1
 19
    class = 0
 20
    class = 1
 21
    class = 0
 22
    if x6 < 8743 then node 34 elseif x6 > = 8743 then node 35 else 0
    if x21<0.5 then node 36 elseif x21>=0.5 then node 37 else 0
 23
    class = 1
 24
 25
    class = 0
    if x6<1593 then node 38 elseif x6>=1593 then node 39 else 0
 27
    if x14<0.5 then node 40 elseif x14>=0.5 then node 41 else 0
 28
    class = 0
 29
    if x19<0.5 then node 42 elseif x19>=0.5 then node 43 else 1
 30
    class = 0
 31
    class = 1
 32
    if x6<345668 then node 44 elseif x6>=345668 then node 45 else 1
 33
    class = 1
 34
    class = 0
 35
    if x7<98.7521 then node 46 elseif x7>=98.7521 then node 47 else 1
    if x3<28.5 then node 48 elseif x3>=28.5 then node 49 else 0
 36
 37
     class = 1
 38
    class = 0
    class = 1
 39
    if x3<13 then node 50 elseif x3>=13 then node 51 else 0
    if x3<37 then node 52 elseif x3>=37 then node 53 else 0
    if x6<11709.5 then node 54 elseif x6>=11709.5 then node 55 else 1
 42
 43
    class = 1
    if x7 < 8.0396 then node 56 elseif x7 > = 8.0396 then node 57 else 1
    if x6 < 347080 then node 58 elseif x6 > = 347080 then node 59 else 0
```

```
46 if x3<49.5 then node 60 elseif x3>=49.5 then node 61 else 1
    if x7 < 387.665 then node 62 elseif x7 > 387.665 then node 63 else 0
 47
    if x7<116.638 then node 64 elseif x7>=116.638 then node 65 else 0
 49
50
    if x4<2 then node 66 elseif x4>=2 then node 67 else 0
    if x1<1.5 then node 68 elseif x1>=1.5 then node 69 else 0
 52
    class = 0
    class = 1
53
 54
    if x6 < 8701.5 then node 70 elseif x6 > = 8701.5 then node 71 else 1
    if x15<0.5 then node 72 elseif x15>=0.5 then node 73 else 1
57
    if x7<16.4 then node 74 elseif x7>=16.4 then node 75 else 0
    class = 0
 59
    if x6 < 348489 then node 76 elseif x6 > = 348489 then node 77 else 0
    if x6<17581 then node 78 elseif x6>=17581 then node 79 else 1
 60
 61
     class = 0
 62
    class = 0
    class = 1
63
64
    class = 0
 65
    class = 1
 66
    class = 1
    class = 0
 67
    if x4<1.5 then node 80 elseif x4>=1.5 then node 81 else 0
 69
    if x25<0.5 then node 82 elseif x25>=0.5 then node 83 else 0
    class = 1
70
71
    class = 0
72
    class = 1
 73
    class = 0
 74
    if x6<2662 then node 84 elseif x6>=2662 then node 85 else 0
 75
     class = 1
 76
    class = 1
    if x6 < 364681 then node 86 elseif x6 > = 364681 then node 87 else 0
77
 78
 79
    if x6<19935.5 then node 88 elseif x6>=19935.5 then node 89 else 0
    if x7 < 30.5979 then node 90 elseif x7 > 30.5979 then node 91 else 0
80
81
    class = 1
    if x3<32.5 then node 92 elseif x3>=32.5 then node 93 else 0
    if x7<15.1479 then node 94 elseif x7>=15.1479 then node 95 else 0
83
    class = 1
84
 85
    class = 0
 86
    if x6<356849 then node 96 elseif x6>=356849 then node 97 else 0
 87
    class = 0
 88
    class = 0
 89
    class = 1
 90
    if x6<65699 then node 98 elseif x6>=65699 then node 99 else 0
91
    if x3<30.75 then node 100 elseif x3>=30.75 then node 101 else 0
93
    if x6<9402 then node 102 elseif x6>=9402 then node 103 else 0
94
    if x6 < 2621.5 then node 104 elseif x6 > 2621.5 then node 105 else 0
    if x7 < 20.2334 then node 106 elseif x7 > 20.2334 then node 107 else 0
96
    if x25<0.5 then node 108 elseif x25>=0.5 then node 109 else 0
97
    class = 1
98
    class = 0
99
    class = 1
    if x7<7.7979 then node 110 elseif x7>=7.7979 then node 111 else 0
100
     if x6<5689.5 then node 112 elseif x6>=5689.5 then node 113 else 0
101
102
     class = 0
103
     if x6<238832 then node 114 elseif x6>=238832 then node 115 else 0
```

```
104 \text{ class} = 0
105 if x3<29.5 then node 116 elseif x3>=29.5 then node 117 else 0
106
107
    class = 0
    class = 0
108
109
    class = 1
110
    if x7<7.74585 then node 118 elseif x7>=7.74585 then node 119 else 0
111 if x9<0.5 then node 120 elseif x9>=0.5 then node 121 else 0
112
    class = 1
113
    class = 0
114
    if x6<237682 then node 122 elseif x6>=237682 then node 123 else 0
115
    class = 0
    if x3<28.75 then node 124 elseif x3>=28.75 then node 125 else 0
117
    if x6<2680 then node 126 elseif x6>=2680 then node 127 else 0
118
    if x6<19270 then node 128 elseif x6>=19270 then node 129 else 0
119
    if x3<26.5 then node 130 elseif x3>=26.5 then node 131 else 0
120
121
    if x3<19.5 then node 132 elseif x3>=19.5 then node 133 else 0
122
    class = 0
123
    class = 1
124
    class = 0
125
    class = 1
126
    if x6<2675.5 then node 134 elseif x6>=2675.5 then node 135 else 0
127
    class = 0
    class = 0
128
129
    if x7<7.0125 then node 136 elseif x7>=7.0125 then node 137 else 0
130
    if x13<0.5 then node 138 elseif x13>=0.5 then node 139 else 0
    if x7<8.08125 then node 140 elseif x7>=8.08125 then node 141 else 0
131
132
    class = 1
133
    class = 0
134 \text{ class} = 0
    class = 1
135
136
    if x7<6.9625 then node 142 elseif x7>=6.9625 then node 143 else 0
137
    class = 0
138
    class = 0
139 \quad class = 1
140 \text{ class} = 0
141
    if x7<10 then node 144 elseif x7>=10 then node 145 else 0
142
    class = 0
143
    class = 1
144
    if x3<27.5 then node 146 elseif x3>=27.5 then node 147 else 0
145
    if x6 < 244366 then node 148 elseif x6 > = 244366 then node 149 else 0
146
     class = 1
147
    class = 0
    class = 0
148
    if x4<1.5 then node 150 elseif x4>=1.5 then node 151 else 0
150 if x6<246550 then node 152 elseif x6>=246550 then node 153 else 0
151 \text{ class} = 1
152
     class = 1
153
     class = 0
>> view(a,'mode','graph')
>> predict(a,Xtest)
ans =
     0
     0
```

1 1100101000000 1 0 $\begin{smallmatrix} 0 & 1 & 0 & 1 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1$ 0 1 0 0

```
1
      1
      0
      1
      1
      0
      1
      0
      0
      0
>> B=fitensemble(X,Y,'AdaBoostM1',100,'tree');
>> predict(B,Xtest)
ans =
      0
      0
      0
       0
       0
      1
      0
      1
      0
      0
      0
      1
      0
      1
      1
      0
      0
      1
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      0
      0
      0
      0
```

```
1
      1
      0
      0
      0
      1
      0
      1
      0
      0
      1
      0
      1
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      0
      1
      0
      0
      1
      1
      1
      1
      1
      0
      1
      0
      0
      0
>> B=fitensemble(X,Y,'TotalBoost',200,'tree');
>> predict(B,Xtest)
ans =
      0
      1
      0
      0
      0
      0
      0
      0
      1
      1
      0
      0
      1
      1
      0
      0
      0
      0
      1
      0
      1
      0
      1
      1
```

```
0
      0
      1
      1
      0
      1
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      0
      0
      1
      1
      0
      0
      1
      1
      1
      1
>> output
Undefined function or variable 'output'.
>> publish
Error using publish (line 87)
Not enough input arguments.
>> publish(script.m)
Undefined variable "script" or function "script.m".
>> publish(script)
```

>>

```
Attempt to execute SCRIPT script as a function:
/Applications/MATLAB_R2014b.app/toolbox/matlab/lang/script.m
>> pwd
ans =
/Users/sidichang/Documents/Summer-hw4
```