```
tree= 0, node= 1, feature=15, thr= 25.00, gain=0.622315
tree= 0, node= 2, feature= 4, thr= 41.00, gain=0.587774
tree= 0, node= 4, feature= 9, thr= 19.00, gain=0.694970
tree= 0, node= 8, feature=14, thr= 54.00, gain=0.484033
tree= 0, node= 16, feature= 0, thr= 16.00, gain=0.024945
tree= 0, node= 32, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 33, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 17, feature=10, thr= 47.00, gain=0.993570
tree= 0, node= 34, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 35, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 9, feature= 5, thr= 64.00, gain=0.615180
tree= 0, node= 18, feature=15, thr= 1.00, gain=0.207475
tree= 0, node= 36, feature= 9, thr= 85.00, gain=0.106175
tree= 0, node= 72, feature= 5, thr= 2.00, gain=0.016354
tree= 0, node=144, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=145, feature= 9, thr= 20.00, gain=0.010906
tree= 0, node=290, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=291, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 73, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 37, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 19, feature= 9, thr= 61.00, gain=0.512832
tree= 0, node= 38, feature=13, thr= 18.00, gain=0.744533
tree= 0, node= 76, feature=10, thr= 60.00, gain=0.727820
tree= 0, node=152, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=153, feature= 7, thr= 73.00, gain=0.507666
tree= 0, node=306, feature= 1, thr= 88.00, gain=0.236640
tree= 0, node=612, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=613, feature= 2, thr= 1.00, gain=0.094084
tree= 0, node=1226, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1227, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=307, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 77, feature= 5, thr= 77.00, gain=0.329846
tree= 0, node=154, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=155, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 39, feature= 0, thr= 39.00, gain=0.190923
tree= 0, node= 78, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 79, feature= 1, thr= 93.00, gain=0.107028
tree= 0, node=158, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=159, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 5, feature=10, thr= 39.00, gain=0.621049
tree= 0, node= 10, feature=14, thr= 37.00, gain=0.224463
tree= 0, node= 20, feature=12, thr= 26.00, gain=0.721928
tree= 0, node= 40, feature= 3, thr= 96.00, gain=0.333254
tree= 0, node= 80, feature= 5, thr= 70.00, gain=0.242292
tree= 0, node=160, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=161, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 81, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 41, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 21, feature= 8, thr= 34.00, gain=0.130605
tree= 0, node= 42, feature= 9, thr= 2.00, gain=0.072210
tree= 0, node= 84, feature= 8, thr= 12.00, gain=0.367390
tree= 0, node=168, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=169, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 85, feature= 7, thr= 74.00, gain=0.050921
```

```
tree= 0, node=170, feature=12, thr= 12.00, gain=0.022573
tree= 0, node=340, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=341, feature= 9, thr= 6.00, gain=0.007238
tree= 0, node=682, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=683, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=171, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 43, feature= 6, thr= 65.00, gain=0.242832
tree= 0, node= 86, feature=12, thr= 56.00, gain=0.374389
tree= 0, node=172, feature=13, thr= 17.00, gain=0.160823
tree= 0, node=344, feature= 6, thr= 59.00, gain=0.160531
tree= 0, node=688, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=689, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=345, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=173, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 87, feature= 8, thr= 49.00, gain=0.202813
tree= 0, node=174, feature=15, thr= 17.00, gain=0.112588
tree= 0, node=348, feature= 0, thr= 73.00, gain=0.049479
tree= 0, node=696, feature= 1, thr= 90.00, gain=0.024403
tree= 0, node=1392, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1393, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=697, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=349, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=175, feature=11, thr= 6.00, gain=0.525941
tree= 0, node=350, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=351, feature= 9, thr= 53.00, gain=0.268740
tree= 0, node=702, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=703, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 11, feature= 3, thr= 90.00, gain=0.683024
tree= 0, node= 22, feature= 6, thr= 72.00, gain=0.526344
tree= 0, node= 44, feature=14, thr= 96.00, gain=0.344882
tree= 0, node= 88, feature= 1, thr= 41.00, gain=0.354420
tree= 0, node=176, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=177, feature= 7, thr= 67.00, gain=0.355632
tree= 0, node=354, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=355, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 89, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 45, feature= 1, thr= 80.00, gain=0.334381
tree= 0, node= 90, feature=15, thr= 10.00, gain=0.133354
tree= 0, node=180, feature= 0, thr= 60.00, gain=0.032594
tree= 0, node=360, feature=13, thr= 36.00, gain=0.025982
tree= 0, node=720, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=721, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=361, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=181, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 91, feature= 0, thr= 37.00, gain=0.659007
tree= 0, node=182, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=183, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 23, feature= 7, thr= 77.00, gain=0.395532
tree= 0, node= 46, feature= 4, thr= 66.00, gain=0.255841
tree= 0, node= 92, feature= 2, thr= 64.00, gain=0.641136
tree= 0, node=184, feature= 9, thr= 29.00, gain=0.468074
tree= 0, node=368, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=369, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=185, feature= 9, thr= 21.00, gain=0.690429
tree= 0, node=370, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=371, feature= 1, thr= 81.00, gain=0.612101
tree= 0, node=742, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 0, node=743, feature= 8, thr= 98.00, gain=0.618993
tree= 0, node=1486, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1487, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 93, feature=14, thr= 43.00, gain=0.142189
tree= 0, node=186, feature= 2, thr= 90.00, gain=0.128421
tree= 0, node=372, feature= 9, thr= 9.00, gain=0.054826
tree= 0, node=744, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=745, feature= 3, thr= 98.00, gain=0.050882
tree= 0, node=1490, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1491, feature=12, thr= 1.00, gain=0.017939
tree= 0, node=2982, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2983, feature= 2, thr= 87.00, gain=0.008569
tree= 0, node=5966, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=5967, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=373, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=187, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 47, feature= 5, thr= 90.00, gain=0.788950
tree= 0, node= 94, feature= 2, thr= 86.00, gain=0.087281
tree= 0, node=188, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=189, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 95, feature= 6, thr= 70.00, gain=0.980117
tree= 0, node=190, feature= 4, thr= 49.00, gain=0.309543
tree= 0, node=380, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=381, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=191, feature=11, thr= 40.00, gain=0.547459
tree= 0, node=382, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=383, feature= 2, thr= 46.00, gain=0.172037
tree= 0, node=766, feature= 1, thr= 67.00, gain=0.074751
tree= 0, node=1532, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1533, feature= 2, thr= 42.00, gain=0.065426
tree= 0, node=3066, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3067, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=767, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 3, feature=13, thr= 58.00, gain=0.693090
tree= 0, node= 6, feature= 0, thr= 35.00, gain=0.702301
tree= 0, node= 12, feature=14, thr= 39.00, gain=0.251516
tree= 0, node= 24, feature= 1, thr= 84.00, gain=0.544247
tree= 0, node= 48, feature= 8, thr= 76.00, gain=0.515947
tree= 0, node= 96, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 97, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 49, feature= 6, thr= 50.00, gain=0.637785
tree= 0, node= 98, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 99, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 25, feature=13, thr= 1.00, gain=0.118655
tree= 0, node= 50, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 51, feature= 1, thr= 61.00, gain=0.061946
tree= 0, node=102, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=103, feature= 8, thr= 3.00, gain=0.027338
tree= 0, node=206, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=207, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 13, feature=10, thr= 31.00, gain=0.575440
tree= 0, node= 26, feature=15, thr= 32.00, gain=0.226363
tree= 0, node= 52, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 53, feature= 0, thr= 54.00, gain=0.134851
tree= 0, node=106, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=107, feature=14, thr= 1.00, gain=0.045886
tree= 0, node=214, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 0, node=215, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 27, feature= 9, thr= 20.00, gain=0.423744
tree= 0, node= 54, feature= 6, thr= 41.00, gain=0.275487
tree= 0, node=108, feature=14, thr= 60.00, gain=0.177126
tree= 0, node=216, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=217, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=109, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 55, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 7, feature= 8, thr= 58.00, gain=0.797073
tree= 0, node= 14, feature=14, thr= 96.00, gain=0.718251
tree= 0, node= 28, feature=11, thr= 32.00, gain=0.189660
tree= 0, node= 56, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 57, feature=12, thr= 21.00, gain=0.158343
tree= 0, node=114, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=115, feature= 1, thr= 26.00, gain=0.028826
tree= 0, node=230, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=231, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 29, feature=13, thr= 72.00, gain=0.394625
tree= 0, node= 58, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 59, feature= 5, thr= 55.00, gain=0.006884
tree= 0, node=118, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=119, feature= 6, thr= 45.00, gain=0.097300
tree= 0, node=238, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=239, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 15, feature= 7, thr= 27.00, gain=0.229647
tree= 0, node= 30, feature= 2, thr= 54.00, gain=0.084902
tree= 0, node= 60, feature= 6, thr= 98.00, gain=0.025547
tree= 0, node=120, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=121, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 61, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 31, feature= 3, thr= 27.00, gain=0.959687
tree= 0, node= 62, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 63, feature=-1, thr= -1.00, gain=0.000000
```

classification accuracy=0.8562

dtree pendigits training pendigits test randomized 50

```
tree= 0, node= 1, feature=16, thr= 5.00, gain=0.999574
tree= 0, node= 2, feature= 2, thr= 23.00, gain=0.357515
tree= 0, node= 4, feature= 0, thr= 1.00, gain=0.200236
tree= 0, node= 8, feature=13, thr= 17.00, gain=0.742340
tree= 0, node= 16, feature= 0, thr= 0.00, gain=0.000000
tree= 0, node= 32, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 33, feature= 1, thr= 65.00, gain=0.195915
tree= 0, node= 66, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 67, feature=15, thr= 5.00, gain=0.024024
tree= 0, node=134, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=135, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 17, feature= 6, thr= 53.00, gain=0.467340
tree= 0, node= 34, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 35, feature= 8, thr= 88.00, gain=0.199753
tree= 0, node= 70, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 71, feature= 5, thr= 23.00, gain=0.954434
tree= 0, node=142, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=143, feature=10, thr= 89.00, gain=0.077481
tree= 0, node=286, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 0, node=287, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 9, feature= 4, thr= 25.00, gain=0.162515
tree= 0, node= 18, feature= 0, thr= 82.00, gain=0.024197
tree= 0, node= 36, feature= 9, thr= 35.00, gain=0.286107
tree= 0, node= 72, feature=12, thr= 53.00, gain=0.039423
tree= 0, node=144, feature=14, thr= 35.00, gain=0.391244
tree= 0, node=288, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=289, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=145, feature=15, thr= 1.00, gain=0.687835
tree= 0, node=290, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=291, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 73, feature= 6, thr= 60.00, gain=0.138717
tree= 0, node=146, feature= 2, thr= 1.00, gain=0.030220
tree= 0, node=292, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=293, feature=13, thr= 54.00, gain=0.216397
tree= 0, node=586, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=587, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=147, feature=11, thr= 78.00, gain=0.403508
tree= 0, node=294, feature=11, thr= 33.00, gain=0.074149
tree= 0, node=588, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=589, feature= 8, thr= 71.00, gain=0.131107
tree= 0, node=1178, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1179, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=295, feature=10, thr= 76.00, gain=0.180427
tree= 0, node=590, feature=14, thr= 14.00, gain=0.448215
tree= 0, node=1180, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1181, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=591, feature= 5, thr= 22.00, gain=0.470626
tree= 0, node=1182, feature= 2, thr= 1.00, gain=0.009788
tree= 0, node=2364, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2365, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1183, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 37, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 19, feature= 0, thr= 9.00, gain=0.053043
tree= 0, node= 38, feature= 2, thr= 3.00, gain=0.291846
tree= 0, node= 76, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 77, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 39, feature= 6, thr= 56.00, gain=0.274890
tree= 0, node= 78, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 79, feature= 5, thr= 21.00, gain=0.883823
tree= 0, node=158, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=159, feature=12, thr= 38.00, gain=0.194245
tree= 0, node=318, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=319, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 5, feature= 7, thr= 49.00, gain=0.408850
tree= 0, node= 10, feature= 1, thr= 97.00, gain=0.605142
tree= 0, node= 20, feature= 0, thr= 64.00, gain=0.183829
tree= 0, node= 40, feature= 4, thr= 41.00, gain=0.191528
tree= 0, node= 80, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 81, feature= 9, thr= 28.00, gain=0.294582
tree= 0, node=162, feature= 5, thr= 81.00, gain=0.057479
tree= 0, node=324, feature= 7, thr= 37.00, gain=0.044363
tree= 0, node=648, feature=13, thr= 17.00, gain=0.042090
tree= 0, node=1296, feature= 8, thr= 17.00, gain=0.331612
tree= 0, node=2592, feature=13, thr= 7.00, gain=0.013358
tree= 0, node=5184, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=5185, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 0, node=2593, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1297, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=649, feature= 8, thr= 54.00, gain=0.076292
tree= 0, node=1298, feature=14, thr= 98.00, gain=0.000412
tree= 0, node=2596, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2597, feature=12, thr= 36.00, gain=0.051791
tree= 0, node=5194, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=5195, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1299, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=325, feature=12, thr= 55.00, gain=0.101630
tree= 0, node=650, feature=10, thr= 1.00, gain=0.174520
tree= 0, node=1300, feature=14, thr= 95.00, gain=0.027302
tree= 0, node=2600, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2601, feature= 7, thr= 35.00, gain=0.118823
tree= 0, node=5202, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=5203, feature=11, thr= 14.00, gain=0.036395
tree= 0, node=10406, feature= 6, thr= 68.00, gain=0.131526
tree= 0, node=20812, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=20813, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=10407, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1301, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=651, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=163, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 41, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 21, feature=11, thr= 29.00, gain=0.315656
tree= 0, node= 42, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 43, feature=12, thr= 55.00, gain=0.037542
tree= 0, node= 86, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 87, feature= 3, thr= 75.00, gain=0.032512
tree= 0, node=174, feature= 6, thr= 25.00, gain=0.014874
tree= 0, node=348, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=349, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=175, feature= 6, thr= 1.00, gain=0.095204
tree= 0, node=350, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=351, feature= 1, thr= 99.00, gain=0.029720
tree= 0, node=702, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=703, feature=13, thr= 48.00, gain=0.665580
tree= 0, node=1406, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1407, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 11, feature=10, thr= 52.00, gain=0.494252
tree= 0, node= 22, feature= 8, thr= 49.00, gain=0.221226
tree= 0, node= 44, feature= 4, thr= 49.00, gain=0.138931
tree= 0, node= 88, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 89, feature= 2, thr= 50.00, gain=0.068427
tree= 0, node=178, feature= 0, thr= 24.00, gain=0.028980
tree= 0, node=356, feature= 7, thr= 71.00, gain=0.130465
tree= 0, node=712, feature= 4, thr= 63.00, gain=0.039672
tree= 0, node=1424, feature= 5, thr= 93.00, gain=0.331846
tree= 0, node=2848, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2849, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1425, feature= 2, thr= 30.00, gain=0.009760
tree= 0, node=2850, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2851, feature= 0, thr= 20.00, gain=0.036360
tree= 0, node=5702, feature=15, thr= 3.00, gain=0.031345
tree= 0, node=11404, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=11405, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=5703, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 0, node=713, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=357, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=179, feature= 0, thr= 70.00, gain=0.120322
tree= 0, node=358, feature=14, thr= 23.00, gain=0.151530
tree= 0, node=716, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=717, feature= 3, thr= 99.00, gain=0.247256
tree= 0, node=1434, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1435, feature= 4, thr= 77.00, gain=0.301601
tree= 0, node=2870, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2871, feature= 0, thr= 8.00, gain=0.072104
tree= 0, node=5742, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=5743, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=359, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 45, feature=15, thr= 12.00, gain=0.092274
tree= 0, node= 90, feature=13, thr= 16.00, gain=0.225611
tree= 0, node=180, feature= 5, thr= 98.00, gain=0.097647
tree= 0, node=360, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=361, feature=11, thr= 10.00, gain=0.436558
tree= 0, node=722, feature= 8, thr= 60.00, gain=0.050617
tree= 0, node=1444, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1445, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=723, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=181, feature=13, thr= 31.00, gain=0.165427
tree= 0, node=362, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=363, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 91, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 23, feature= 0, thr= 1.00, gain=0.417227
tree= 0, node= 46, feature=13, thr= 15.00, gain=0.472160
tree= 0, node= 92, feature=13, thr= 2.00, gain=0.133470
tree= 0, node=184, feature=16, thr= 2.00, gain=0.402179
tree= 0, node=368, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=369, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=185, feature=10, thr= 97.00, gain=0.421988
tree= 0, node=370, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=371, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 93, feature=10, thr= 93.00, gain=0.029349
tree= 0, node=186, feature=13, thr= 20.00, gain=0.044856
tree= 0, node=372, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=373, feature=12, thr= 79.00, gain=0.010604
tree= 0, node=746, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=747, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=187, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 47, feature= 8, thr= 95.00, gain=0.079354
tree= 0, node= 94, feature= 3, thr= 96.00, gain=0.302018
tree= 0, node=188, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=189, feature= 3, thr= 99.00, gain=0.000934
tree= 0, node=378, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=379, feature= 5, thr= 81.00, gain=0.020662
tree= 0, node=758, feature= 3, thr=100.00, gain=0.000000
tree= 0, node=1516, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1517, feature= 3, thr=100.00, gain=0.000000
tree= 0, node=3034, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3035, feature= 0, thr= 40.00, gain=0.019495
tree= 0, node=6070, feature=10, thr= 98.00, gain=0.005292
tree= 0, node=12140, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=12141, feature= 1, thr= 95.00, gain=0.074370
tree= 0, node=24282, feature= 4, thr= 8.00, gain=0.131107
```

```
tree= 0, node=48564, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=48565, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=24283, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=6071, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=759, feature= 0, thr= 50.00, gain=0.010563
tree= 0, node=1518, feature=10, thr= 80.00, gain=0.023369
tree= 0, node=3036, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3037, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1519, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 95, feature=10, thr= 74.00, gain=0.166703
tree= 0, node=190, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=191, feature= 8, thr= 97.00, gain=0.001738
tree= 0, node=382, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=383, feature=11, thr= 30.00, gain=0.429462
tree= 0, node=766, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=767, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 3, feature=10, thr= 62.00, gain=0.325481
tree= 0, node= 6, feature= 8, thr= 21.00, gain=0.398568
tree= 0, node= 12, feature= 6, thr= 29.00, gain=0.211712
tree= 0, node= 24, feature= 5, thr= 47.00, gain=0.842839
tree= 0, node= 48, feature= 5, thr= 15.00, gain=0.050136
tree= 0, node= 96, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 97, feature=10, thr= 37.00, gain=0.668625
tree= 0, node=194, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=195, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 49, feature= 0, thr= 80.00, gain=0.647212
tree= 0, node= 98, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 99, feature=12, thr= 37.00, gain=0.013472
tree= 0, node=198, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=199, feature=11, thr= 15.00, gain=0.136059
tree= 0, node=398, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=399, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 25, feature=11, thr= 43.00, gain=0.285047
tree= 0, node= 50, feature= 5, thr= 51.00, gain=0.214850
tree= 0, node=100, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=101, feature= 1, thr= 98.00, gain=0.053760
tree= 0, node=202, feature= 6, thr= 62.00, gain=0.242094
tree= 0, node=404, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=405, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=203, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 51, feature= 7, thr= 90.00, gain=0.121915
tree= 0, node=102, feature= 6, thr= 67.00, gain=0.097281
tree= 0, node=204, feature=14, thr= 84.00, gain=0.628748
tree= 0, node=408, feature= 6, thr= 47.00, gain=0.045525
tree= 0, node=816, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=817, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=409, feature=13, thr= 57.00, gain=0.104807
tree= 0, node=818, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=819, feature= 5, thr= 55.00, gain=0.014839
tree= 0, node=1638, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1639, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=205, feature=12, thr= 45.00, gain=0.977795
tree= 0, node=410, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=411, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=103, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 13, feature=13, thr= 52.00, gain=0.311999
tree= 0, node= 26, feature=16, thr= 8.00, gain=0.711181
```

```
tree= 0, node= 52, feature= 5, thr= 87.00, gain=0.045105
tree= 0, node=104, feature= 4, thr= 65.00, gain=0.031366
tree= 0, node=208, feature= 0, thr= 29.00, gain=0.371232
tree= 0, node=416, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=417, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=209, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=105, feature= 4, thr= 35.00, gain=0.034449
tree= 0, node=210, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=211, feature= 3, thr= 95.00, gain=0.006248
tree= 0, node=422, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=423, feature= 1, thr= 94.00, gain=0.022612
tree= 0, node=846, feature= 3, thr= 96.00, gain=0.010952
tree= 0, node=1692, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1693, feature=11, thr= 25.00, gain=0.318835
tree= 0, node=3386, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3387, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=847, feature= 4, thr= 82.00, gain=0.041523
tree= 0, node=1694, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1695, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 53, feature= 2, thr= 41.00, gain=0.039240
tree= 0, node=106, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=107, feature=14, thr= 52.00, gain=0.263161
tree= 0, node=214, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=215, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 27, feature=11, thr= 41.00, gain=0.476290
tree= 0, node= 54, feature= 1, thr= 95.00, gain=0.033328
tree= 0, node=108, feature=11, thr= 29.00, gain=0.189127
tree= 0, node=216, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=217, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=109, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 55, feature= 7, thr= 38.00, gain=0.612780
tree= 0, node=110, feature= 4, thr= 17.00, gain=0.099380
tree= 0, node=220, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=221, feature=14, thr= 52.00, gain=0.754034
tree= 0, node=442, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=443, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=111, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 7, feature= 2, thr= 70.00, gain=0.128416
tree= 0, node= 14, feature=12, thr= 94.00, gain=0.103608
tree= 0, node= 28, feature= 2, thr= 12.00, gain=0.055686
tree= 0, node= 56, feature= 4, thr= 37.00, gain=0.347551
tree= 0, node=112, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=113, feature=10, thr= 92.00, gain=0.701766
tree= 0, node=226, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=227, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 57, feature=13, thr= 15.00, gain=0.417299
tree= 0, node=114, feature=14, thr= 1.00, gain=0.070890
tree= 0, node=228, feature= 6, thr= 56.00, gain=0.348732
tree= 0, node=456, feature=12, thr= 56.00, gain=0.488362
tree= 0, node=912, feature= 2, thr= 37.00, gain=0.051808
tree= 0, node=1824, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1825, feature= 8, thr= 67.00, gain=0.136661
tree= 0, node=3650, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3651, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=913, feature= 2, thr= 41.00, gain=0.132218
tree= 0, node=1826, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1827, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 0, node=457, feature= 1, thr= 88.00, gain=0.016038
tree= 0, node=914, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=915, feature= 2, thr= 58.00, gain=0.075897
tree= 0, node=1830, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1831, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=229, feature= 4, thr= 37.00, gain=0.489640
tree= 0, node=458, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=459, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=115, feature=12, thr= 69.00, gain=0.025176
tree= 0, node=230, feature= 3, thr= 96.00, gain=0.187194
tree= 0, node=460, feature=12, thr= 45.00, gain=0.028930
tree= 0, node=920, feature= 7, thr= 35.00, gain=0.930256
tree= 0, node=1840, feature= 0, thr= 28.00, gain=0.187176
tree= 0, node=3680, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3681, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1841, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=921, feature= 6, thr= 25.00, gain=0.325522
tree= 0, node=1842, feature= 1, thr= 98.00, gain=0.315765
tree= 0, node=3684, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3685, feature= 5, thr= 67.00, gain=0.113970
tree= 0, node=7370, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=7371, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1843, feature=12, thr= 54.00, gain=0.263477
tree= 0, node=3686, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3687, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=461, feature=11, thr= 40.00, gain=0.441621
tree= 0, node=922, feature= 0, thr= 35.00, gain=0.903003
tree= 0, node=1844, feature= 5, thr= 71.00, gain=0.121601
tree= 0, node=3688, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3689, feature= 4, thr= 98.00, gain=0.288147
tree= 0, node=7378, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=7379, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1845, feature=10, thr= 86.00, gain=0.080348
tree= 0, node=3690, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3691, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=923, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=231, feature= 0, thr= 50.00, gain=0.363294
tree= 0, node=462, feature= 1, thr= 88.00, gain=0.363645
tree= 0, node=924, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=925, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=463, feature=12, thr= 70.00, gain=0.041397
tree= 0, node=926, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=927, feature= 2, thr= 48.00, gain=0.034768
tree= 0, node=1854, feature= 5, thr= 64.00, gain=0.755942
tree= 0, node=3708, feature=16, thr= 7.00, gain=0.549911
tree= 0, node=7416, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=7417, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3709, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1855, feature= 9, thr= 17.00, gain=0.867629
tree= 0, node=3710, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3711, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 29, feature=15, thr= 50.00, gain=0.986862
tree= 0, node= 58, feature=12, thr= 97.00, gain=0.042692
tree= 0, node=116, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=117, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 59, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 15, feature= 2, thr= 86.00, gain=0.096457
```

```
tree= 0, node= 30, feature= 9, thr= 45.00, gain=0.736411
tree= 0, node= 60, feature=10, thr= 98.00, gain=0.082507
tree= 0, node=120, feature= 4, thr= 67.00, gain=0.862343
tree= 0, node=240, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=241, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=121, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 61, feature=14, thr= 39.00, gain=0.049476
tree= 0, node=122, feature=11, thr= 47.00, gain=0.107477
tree= 0, node=244, feature= 3, thr= 84.00, gain=0.194173
tree= 0, node=488, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=489, feature= 6, thr= 60.00, gain=0.397626
tree= 0, node=978, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=979, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=245, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=123, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 31, feature= 3, thr= 95.00, gain=0.459998
tree= 0, node= 62, feature= 8, thr= 27.00, gain=0.077989
tree= 0, node=124, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=125, feature=14, thr= 1.00, gain=0.025719
tree= 0, node=250, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=251, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 63, feature=15, thr= 16.00, gain=0.266300
tree= 0, node=126, feature= 8, thr= 68.00, gain=0.240548
tree= 0, node=252, feature=14, thr= 2.00, gain=0.264247
tree= 0, node=504, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=505, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=253, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=127, feature=-1, thr= -1.00, gain=0.000000
```

classification accuracy=0.7910

dtree pendigits training pendigits test forest3 50

```
tree= 0, node= 1, feature=15, thr= 25.00, gain=0.622315
tree= 0, node= 2, feature= 3, thr= 92.00, gain=0.506729
tree= 0, node= 4, feature= 6, thr= 56.00, gain=0.378750
tree= 0, node= 8, feature= 1, thr= 98.00, gain=0.629187
tree= 0, node= 16, feature=14, thr= 98.00, gain=0.376152
tree= 0, node= 32, feature=12, thr= 53.00, gain=0.073679
tree= 0, node= 64, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 65, feature=10, thr= 98.00, gain=0.027241
tree= 0, node=130, feature=13, thr= 12.00, gain=0.085105
tree= 0, node=260, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=261, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=131, feature= 7, thr= 70.00, gain=0.151097
tree= 0, node=262, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=263, feature=15, thr= 9.00, gain=0.350209
tree= 0, node=526, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=527, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 33, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 0, node= 17, feature= 1, thr= 99.00, gain=0.040999
tree= 0, node= 34, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 35, feature= 9, thr= 13.00, gain=0.818288
tree= 0, node= 70, feature= 2, thr= 21.00, gain=0.035805
tree= 0, node=140, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=141, feature= 3, thr= 77.00, gain=0.024528
tree= 0, node=282, feature=15, thr= 1.00, gain=0.221732
tree= 0, node=564, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=565, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=283, feature=10, thr= 34.00, gain=0.038672
tree= 0, node=566, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=567, feature= 6, thr= 1.00, gain=0.004765
tree= 0, node=1134, feature=11, thr= 26.00, gain=0.033715
tree= 0, node=2268, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2269, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1135, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 71, feature= 1, thr= 99.00, gain=0.000000
tree= 0, node=142, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=143, feature= 6, thr= 23.00, gain=0.037897
tree= 0, node=286, feature=13, thr= 17.00, gain=0.349784
tree= 0, node=572, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=573, feature= 4, thr= 23.00, gain=0.133414
tree= 0, node=1146, feature=15, thr= 1.00, gain=0.049384
tree= 0, node=2292, feature=14, thr= 19.00, gain=0.049614
tree= 0, node=4584, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=4585, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2293, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1147, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=287, feature=13, thr= 16.00, gain=0.417665
tree= 0, node=574, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=575, feature= 1, thr= 99.00, gain=0.000000
tree= 0, node=1150, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1151, feature=12, thr= 64.00, gain=0.038440
tree= 0, node=2302, feature= 2, thr= 48.00, gain=0.028576
tree= 0, node=4604, feature=14, thr= 39.00, gain=0.051130
tree= 0, node=9208, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=9209, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=4605, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2303, feature=12, thr= 77.00, gain=0.008593
tree= 0, node=4606, feature= 6, thr= 52.00, gain=0.052314
tree= 0, node=9212, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=9213, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=4607, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 9, feature= 1, thr= 86.00, gain=0.730088
```

```
tree= 0, node= 18, feature= 3, thr= 35.00, gain=0.086790
tree= 0, node= 36, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 37, feature= 7, thr= 80.00, gain=0.104428
tree= 0, node= 74, feature=13, thr= 39.00, gain=0.407077
tree= 0, node=148, feature= 7, thr= 75.00, gain=0.105187
tree= 0, node=296, feature=12, thr= 14.00, gain=0.134118
tree= 0, node=592, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=593, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=297, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=149, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 75, feature=16, thr= 2.00, gain=0.446481
tree= 0, node=150, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=151, feature=11, thr= 21.00, gain=0.060961
tree= 0, node=302, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=303, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 19, feature= 0, thr= 68.00, gain=0.246797
tree= 0, node= 38, feature=11, thr= 50.00, gain=0.173383
tree= 0, node= 76, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 77, feature=12, thr= 23.00, gain=0.105212
tree= 0, node=154, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=155, feature= 7, thr= 94.00, gain=0.289079
tree= 0, node=310, feature=15, thr= 1.00, gain=0.041126
tree= 0, node=620, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=621, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=311, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 39, feature= 6, thr= 90.00, gain=0.108483
tree= 0, node= 78, feature=13, thr= 35.00, gain=0.659870
tree= 0, node=156, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=157, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 79, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 5, feature= 2, thr= 54.00, gain=0.148137
tree= 0, node= 10, feature= 4, thr= 27.00, gain=0.532954
tree= 0, node= 20, feature= 5, thr= 71.00, gain=0.339480
tree= 0, node= 40, feature=11, thr= 35.00, gain=0.720364
tree= 0, node= 80, feature= 5, thr= 66.00, gain=0.172855
tree= 0, node=160, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=161, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 81, feature=13, thr= 10.00, gain=0.317908
tree= 0, node=162, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=163, feature= 1, thr= 99.00, gain=0.039360
tree= 0, node=326, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=327, feature=12, thr= 22.00, gain=0.137099
tree= 0, node=654, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=655, feature=11, thr= 62.00, gain=0.049098
```

```
tree= 0, node=1310, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1311, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 41, feature= 0, thr= 58.00, gain=0.496627
tree= 0, node= 82, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 83, feature=11, thr= 30.00, gain=0.688938
tree= 0, node=166, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=167, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 21, feature=12, thr= 45.00, gain=0.069170
tree= 0, node= 42, feature= 4, thr= 73.00, gain=0.349235
tree= 0, node= 84, feature=12, thr= 37.00, gain=0.228975
tree= 0, node=168, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=169, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 85, feature= 4, thr= 83.00, gain=0.096549
tree= 0, node=170, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=171, feature=12, thr= 33.00, gain=0.331379
tree= 0, node=342, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=343, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 43, feature= 3, thr= 99.00, gain=0.072850
tree= 0, node= 86, feature= 6, thr= 78.00, gain=0.406315
tree= 0, node=172, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=173, feature= 8, thr= 77.00, gain=0.474651
tree= 0, node=346, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=347, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 87, feature= 8, thr= 45.00, gain=0.715063
tree= 0, node=174, feature= 4, thr= 97.00, gain=0.102616
tree= 0, node=348, feature= 8, thr= 19.00, gain=0.054524
tree= 0, node=696, feature= 7, thr= 24.00, gain=0.015977
tree= 0, node=1392, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1393, feature= 2, thr= 22.00, gain=0.022939
tree= 0, node=2786, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2787, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=697, feature= 0, thr= 4.00, gain=0.033846
tree= 0, node=1394, feature= 0, thr= 1.00, gain=0.005966
tree= 0, node=2788, feature=14, thr= 53.00, gain=0.095017
tree= 0, node=5576, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=5577, feature=16, thr= 1.00, gain=0.000000
tree= 0, node=11154, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=11155, feature= 4, thr= 47.00, gain=0.095398
tree= 0, node=22310, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=22311, feature=13, thr= 18.00, gain=0.054972
tree= 0, node=44622, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=44623, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2789, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1395, feature=14, thr= 1.00, gain=0.193667
```

```
tree= 0, node=2790, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2791, feature=14, thr=100.00, gain=0.000000
tree= 0, node=5582, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=5583, feature=12, thr= 51.00, gain=0.046117
tree= 0, node=11166, feature=12, thr= 48.00, gain=0.024769
tree= 0, node=22332, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=22333, feature= 4, thr= 53.00, gain=0.535813
tree= 0, node=44666, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=44667, feature=16, thr= 1.00, gain=0.000000
tree= 0, node=89334, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=89335, feature= 3, thr= 99.00, gain=0.000000
tree= 0, node=178670, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=178671, feature= 6, thr= 51.00, gain=0.079087
tree= 0, node=357342, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=357343, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=11167, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=349, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=175, feature=14, thr= 37.00, gain=0.416974
tree= 0, node=350, feature= 7, thr= 79.00, gain=0.486581
tree= 0, node=700, feature= 9, thr= 15.00, gain=0.068355
tree= 0, node=1400, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1401, feature=14, thr= 1.00, gain=0.006414
tree= 0, node=2802, feature= 6, thr= 76.00, gain=0.035986
tree= 0, node=5604, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=5605, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2803, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=701, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=351, feature= 8, thr= 64.00, gain=0.476596
tree= 0, node=702, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=703, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 11, feature= 4, thr= 54.00, gain=0.501149
tree= 0, node= 22, feature= 0, thr= 96.00, gain=0.125929
tree= 0, node= 44, feature= 2, thr= 64.00, gain=0.121883
tree= 0, node= 88, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 89, feature= 7, thr= 49.00, gain=0.419295
tree= 0, node=178, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=179, feature=12, thr= 1.00, gain=0.088072
tree= 0, node=358, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=359, feature= 4, thr= 43.00, gain=0.094120
tree= 0, node=718, feature= 8, thr= 74.00, gain=0.296582
tree= 0, node=1436, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1437, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=719, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 45, feature= 9, thr= 27.00, gain=0.811278
```

```
tree= 0, node= 90, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 91, feature= 8, thr= 75.00, gain=0.372963
tree= 0, node=182, feature= 2, thr= 73.00, gain=0.125929
tree= 0, node=364, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=365, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=183, feature= 3, thr= 99.00, gain=0.047594
tree= 0, node=366, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=367, feature=14, thr= 1.00, gain=0.090618
tree= 0, node=734, feature= 3, thr= 99.00, gain=0.000000
tree= 0, node=1468, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1469, feature= 6, thr= 68.00, gain=0.330710
tree= 0, node=2938, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2939, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=735, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 23, feature= 0, thr= 78.00, gain=0.156957
tree= 0, node= 46, feature= 0, thr= 6.00, gain=0.046628
tree= 0, node= 92, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 93, feature=14, thr= 23.00, gain=0.865497
tree= 0, node=186, feature=15, thr= 2.00, gain=0.137852
tree= 0, node=372, feature=12, thr= 25.00, gain=0.207972
tree= 0, node=744, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=745, feature= 8, thr= 62.00, gain=0.436385
tree= 0, node=1490, feature= 8, thr= 47.00, gain=0.242628
tree= 0, node=2980, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2981, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1491, feature= 4, thr= 83.00, gain=0.086518
tree= 0, node=2982, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2983, feature= 3, thr= 96.00, gain=0.063527
tree= 0, node=5966, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=5967, feature= 5, thr= 91.00, gain=0.127190
tree= 0, node=11934, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=11935, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=373, feature= 2, thr= 97.00, gain=0.197655
tree= 0, node=746, feature= 6, thr= 35.00, gain=0.159488
tree= 0, node=1492, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1493, feature= 5, thr= 99.00, gain=0.086040
tree= 0, node=2986, feature= 8, thr= 87.00, gain=0.013163
tree= 0, node=5972, feature=14, thr= 0.00, gain=0.000000
tree= 0, node=11944, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=11945, feature= 6, thr= 78.00, gain=0.010296
tree= 0, node=23890, feature= 4, thr= 59.00, gain=0.111910
tree= 0, node=47780, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=47781, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=23891, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 0, node=5973, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2987, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=747, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=187, feature= 6, thr= 40.00, gain=0.066576
tree= 0, node=374, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=375, feature=16, thr= 2.00, gain=0.812878
tree= 0, node=750, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=751, feature= 9, thr= 1.00, gain=0.032236
tree= 0, node=1502, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1503, feature= 2, thr= 56.00, gain=0.021702
tree= 0, node=3006, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3007, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 47, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 3, feature= 7, thr= 15.00, gain=0.464051
tree= 0, node= 6, feature= 3, thr= 73.00, gain=0.096435
tree= 0, node= 12, feature=16, thr= 1.00, gain=0.990805
tree= 0, node= 24, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 25, feature= 0, thr= 56.00, gain=0.084111
tree= 0, node= 50, feature=14, thr= 60.00, gain=0.805214
tree= 0, node=100, feature= 7, thr= 2.00, gain=0.048934
tree= 0, node=200, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=201, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=101, feature= 5, thr= 26.00, gain=0.017192
tree= 0, node=202, feature= 8, thr= 26.00, gain=0.121153
tree= 0, node=404, feature= 1, thr= 80.00, gain=0.015281
tree= 0, node=808, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=809, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=405, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=203, feature=13, thr= 98.00, gain=0.004706
tree= 0, node=406, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=407, feature= 7, thr= 1.00, gain=0.001959
tree= 0, node=814, feature=15, thr= 99.00, gain=0.010542
tree= 0, node=1628, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1629, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=815, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 51, feature=14, thr= 72.00, gain=0.629249
tree= 0, node=102, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=103, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 13, feature= 3, thr= 86.00, gain=0.103433
tree= 0, node= 26, feature=11, thr= 36.00, gain=0.244394
tree= 0, node= 52, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 53, feature= 3, thr= 79.00, gain=0.038684
tree= 0, node=106, feature= 5, thr= 36.00, gain=0.313667
tree= 0, node=212, feature=13, thr= 96.00, gain=0.019000
```

```
tree= 0, node=424, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=425, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=213, feature= 3, thr= 75.00, gain=0.078005
tree= 0, node=426, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=427, feature= 6, thr= 31.00, gain=0.623830
tree= 0, node=854, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=855, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=107, feature=16, thr= 6.00, gain=1.000000
tree= 0, node=214, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=215, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 27, feature= 8, thr= 39.00, gain=0.942683
tree= 0, node= 54, feature= 7, thr= 5.00, gain=0.106168
tree= 0, node=108, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=109, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 55, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 7, feature= 7, thr= 33.00, gain=0.234347
tree= 0, node= 14, feature=14, thr= 70.00, gain=0.595213
tree= 0, node= 28, feature= 5, thr= 3.00, gain=0.563559
tree= 0, node= 56, feature=16, thr= 1.00, gain=0.591673
tree= 0, node=112, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=113, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 57, feature=11, thr= 24.00, gain=0.419457
tree= 0, node=114, feature= 3, thr= 98.00, gain=0.152239
tree= 0, node=228, feature= 3, thr= 92.00, gain=0.019233
tree= 0, node=456, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=457, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=229, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=115, feature= 2, thr= 11.00, gain=0.524842
tree= 0, node=230, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=231, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 29, feature= 0, thr= 49.00, gain=0.722386
tree= 0, node= 58, feature=10, thr= 34.00, gain=0.283779
tree= 0, node=116, feature= 5, thr= 55.00, gain=0.083188
tree= 0, node=232, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=233, feature= 9, thr= 0.00, gain=0.000000
tree= 0, node=466, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=467, feature=10, thr= 1.00, gain=0.029566
tree= 0, node=934, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=935, feature=16, thr= 6.00, gain=0.821813
tree= 0, node=1870, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1871, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=117, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 59, feature=14, thr= 91.00, gain=0.201214
tree= 0, node=118, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 0, node=119, feature= 1, thr= 91.00, gain=0.138531
tree= 0, node=238, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=239, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 15, feature= 6, thr= 50.00, gain=0.370306
tree= 0, node= 30, feature= 6, thr= 21.00, gain=0.354079
tree= 0, node= 60, feature= 0, thr= 80.00, gain=0.692824
tree= 0, node=120, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=121, feature=12, thr= 50.00, gain=0.158270
tree= 0, node=242, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=243, feature= 6, thr= 1.00, gain=0.026882
tree= 0, node=486, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=487, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 61, feature=11, thr= 11.00, gain=0.332797
tree= 0, node=122, feature=11, thr= 8.00, gain=0.070670
tree= 0, node=244, feature= 2, thr= 72.00, gain=0.106818
tree= 0, node=488, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=489, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=245, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=123, feature= 9, thr= 1.00, gain=0.466417
tree= 0, node=246, feature= 3, thr= 98.00, gain=0.034871
tree= 0, node=492, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=493, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=247, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 31, feature= 9, thr= 58.00, gain=0.279722
tree= 0, node= 62, feature=12, thr= 21.00, gain=0.041790
tree= 0, node=124, feature=12, thr= 16.00, gain=0.046762
tree= 0, node=248, feature=10, thr= 55.00, gain=0.064106
tree= 0, node=496, feature= 6, thr= 99.00, gain=0.094019
tree= 0, node=992, feature=10, thr= 4.00, gain=0.016043
tree= 0, node=1984, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1985, feature=16, thr= 7.00, gain=0.000000
tree= 0, node=3970, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=3971, feature= 1, thr= 77.00, gain=0.243254
tree= 0, node=7942, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=7943, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=993, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=497, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=249, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=125, feature= 3, thr= 82.00, gain=0.071258
tree= 0, node=250, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=251, feature= 4, thr= 39.00, gain=0.346803
tree= 0, node=502, feature=14, thr= 95.00, gain=0.030383
tree= 0, node=1004, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1005, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 0, node=503, feature=11, thr= 21.00, gain=0.033813
tree= 0, node=1006, feature=16, thr= 4.00, gain=0.202085
tree= 0, node=2012, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2013, feature= 8, thr= 45.00, gain=0.080668
tree= 0, node=4026, feature= 1, thr= 72.00, gain=0.408919
tree= 0, node=8052, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=8053, feature= 4, thr= 97.00, gain=0.166335
tree= 0, node=16106, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=16107, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=4027, feature= 3, thr= 85.00, gain=0.019757
tree= 0, node=8054, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=8055, feature= 7, thr= 61.00, gain=0.008295
tree= 0, node=16110, feature= 5, thr= 94.00, gain=0.014817
tree= 0, node=32220, feature=16, thr= 7.00, gain=0.000000
tree= 0, node=64440, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=64441, feature=10, thr= 62.00, gain=0.078655
tree= 0, node=128882, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=128883, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=32221, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=16111, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=1007, feature=13, thr= 65.00, gain=0.086504
tree= 0, node=2014, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node=2015, feature=-1, thr= -1.00, gain=0.000000
tree= 0, node= 63, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 1, feature= 3, thr= 92.00, gain=0.436753
tree= 1, node= 2, feature= 8, thr= 52.00, gain=0.514695
tree= 1, node= 4, feature= 4, thr= 35.00, gain=0.522611
tree= 1, node= 8, feature=12, thr= 80.00, gain=0.203857
tree= 1, node= 16, feature= 1, thr= 97.00, gain=0.279086
tree= 1, node= 32, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 33, feature=14, thr= 45.00, gain=0.250130
tree= 1, node= 66, feature= 7, thr= 45.00, gain=0.120286
tree= 1, node=132, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=133, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 67, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 17, feature= 1, thr= 98.00, gain=0.509272
tree= 1, node= 34, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 35, feature=10, thr= 96.00, gain=0.095665
tree= 1, node= 70, feature=13, thr= 40.00, gain=0.589047
tree= 1, node=140, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=141, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 71, feature= 3, thr= 78.00, gain=0.095151
tree= 1, node=142, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=143, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 1, node= 9, feature= 7, thr= 27.00, gain=0.519029
tree= 1, node= 18, feature=14, thr= 96.00, gain=0.849149
tree= 1, node= 36, feature= 4, thr= 41.00, gain=0.106686
tree= 1, node= 72, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 73, feature= 6, thr= 72.00, gain=0.054331
tree= 1, node=146, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=147, feature=16, thr= 6.00, gain=0.472995
tree= 1, node=294, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=295, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 37, feature= 8, thr= 38.00, gain=0.028188
tree= 1, node= 74, feature= 8, thr= 3.00, gain=0.010184
tree= 1, node=148, feature= 8, thr= 1.00, gain=0.002142
tree= 1, node=296, feature=16, thr= 6.00, gain=0.078543
tree= 1, node=592, feature=12, thr= 64.00, gain=0.044481
tree= 1, node=1184, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1185, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=593, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=297, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=149, feature= 7, thr= 10.00, gain=0.041800
tree= 1, node=298, feature= 5, thr= 55.00, gain=0.031212
tree= 1, node=596, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=597, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=299, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 75, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 19, feature=15, thr= 9.00, gain=0.842380
tree= 1, node= 38, feature= 0, thr= 13.00, gain=0.081059
tree= 1, node= 76, feature= 0, thr= 9.00, gain=0.035691
tree= 1, node=152, feature= 3, thr= 80.00, gain=0.643432
tree= 1, node=304, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=305, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=153, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 77, feature=14, thr= 96.00, gain=0.449801
tree= 1, node=154, feature= 7, thr= 61.00, gain=0.299072
tree= 1, node=308, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=309, feature=10, thr= 21.00, gain=0.148549
tree= 1, node=618, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=619, feature=11, thr= 32.00, gain=0.086504
tree= 1, node=1238, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1239, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=155, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 39, feature=14, thr= 64.00, gain=0.483919
tree= 1, node= 78, feature=11, thr= 19.00, gain=0.181519
tree= 1, node=156, feature= 3, thr= 77.00, gain=0.914901
tree= 1, node=312, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 1, node=313, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=157, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 79, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 5, feature=14, thr= 39.00, gain=0.305766
tree= 1, node= 10, feature= 1, thr= 98.00, gain=0.405695
tree= 1, node= 20, feature=16, thr= 1.00, gain=0.993244
tree= 1, node= 40, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 41, feature= 7, thr= 33.00, gain=0.225092
tree= 1, node= 82, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 83, feature=12, thr= 54.00, gain=0.308287
tree= 1, node=166, feature= 2, thr= 49.00, gain=0.072261
tree= 1, node=332, feature=14, thr= 4.00, gain=0.199903
tree= 1, node=664, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=665, feature= 3, thr= 61.00, gain=0.057068
tree= 1, node=1330, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1331, feature=12, thr= 36.00, gain=0.026741
tree= 1, node=2662, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=2663, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=333, feature= 7, thr= 98.00, gain=0.292576
tree= 1, node=666, feature= 2, thr= 81.00, gain=0.167543
tree= 1, node=1332, feature= 0, thr= 49.00, gain=0.438401
tree= 1, node=2664, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=2665, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1333, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=667, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=167, feature= 7, thr= 76.00, gain=0.052755
tree= 1, node=334, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=335, feature=12, thr= 64.00, gain=0.068173
tree= 1, node=670, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=671, feature= 5, thr= 70.00, gain=0.065568
tree= 1, node=1342, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1343, feature= 9, thr= 68.00, gain=0.049565
tree= 1, node=2686, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=2687, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 21, feature=15, thr= 43.00, gain=0.684730
tree= 1, node= 42, feature=12, thr= 64.00, gain=0.121463
tree= 1, node= 84, feature=16, thr= 6.00, gain=0.984110
tree= 1, node=168, feature=15, thr= 1.00, gain=0.304505
tree= 1, node=336, feature=11, thr= 30.00, gain=0.116115
tree= 1, node=672, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=673, feature=12, thr= 17.00, gain=0.050907
tree= 1, node=1346, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1347, feature=12, thr= 47.00, gain=0.009966
tree= 1, node=2694, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 1, node=2695, feature= 7, thr= 24.00, gain=0.135036
tree= 1, node=5390, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=5391, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=337, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=169, feature= 4, thr= 45.00, gain=0.665691
tree= 1, node=338, feature=13, thr= 17.00, gain=0.147821
tree= 1, node=676, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=677, feature= 6, thr= 26.00, gain=0.043973
tree= 1, node=1354, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1355, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=339, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 85, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 43, feature=11, thr= 38.00, gain=0.263096
tree= 1, node= 86, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 87, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 11, feature=16, thr= 3.00, gain=0.988154
tree= 1, node= 22, feature= 4, thr= 31.00, gain=0.654840
tree= 1, node= 44, feature= 1, thr= 94.00, gain=0.044152
tree= 1, node= 88, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 89, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 45, feature= 6, thr= 87.00, gain=0.010080
tree= 1, node= 90, feature= 0, thr= 29.00, gain=0.027374
tree= 1, node=180, feature= 8, thr= 60.00, gain=0.080484
tree= 1, node=360, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=361, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=181, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 91, feature= 6, thr= 94.00, gain=0.011707
tree= 1, node=182, feature= 5, thr= 1.00, gain=0.129234
tree= 1, node=364, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=365, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=183, feature=11, thr= 28.00, gain=0.087735
tree= 1, node=366, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=367, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 23, feature= 7, thr= 55.00, gain=0.367701
tree= 1, node= 46, feature=16, thr= 5.00, gain=0.139233
tree= 1, node= 92, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 93, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 47, feature= 8, thr= 94.00, gain=0.198541
tree= 1, node= 94, feature= 4, thr= 52.00, gain=0.394067
tree= 1, node=188, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=189, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 95, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 3, feature=14, thr= 39.00, gain=0.661843
tree= 1, node= 6, feature=12, thr= 66.00, gain=0.077438
```

```
tree= 1, node= 12, feature= 4, thr= 66.00, gain=0.554411
tree= 1, node= 24, feature=10, thr= 54.00, gain=0.181852
tree= 1, node= 48, feature= 0, thr= 64.00, gain=0.796270
tree= 1, node= 96, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 97, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 49, feature= 1, thr= 83.00, gain=0.185936
tree= 1, node= 98, feature= 8, thr= 49.00, gain=0.261948
tree= 1, node=196, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=197, feature= 3, thr= 99.00, gain=0.028424
tree= 1, node=394, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=395, feature= 8, thr= 92.00, gain=0.157105
tree= 1, node=790, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=791, feature=12, thr= 58.00, gain=0.056229
tree= 1, node=1582, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1583, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 99, feature= 1, thr= 98.00, gain=0.101574
tree= 1, node=198, feature= 0, thr= 33.00, gain=0.441432
tree= 1, node=396, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=397, feature=10, thr= 92.00, gain=0.082962
tree= 1, node=794, feature= 1, thr= 93.00, gain=0.157893
tree= 1, node=1588, feature= 1, thr= 90.00, gain=0.036737
tree= 1, node=3176, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=3177, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1589, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=795, feature=12, thr= 54.00, gain=0.097543
tree= 1, node=1590, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1591, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=199, feature= 7, thr= 43.00, gain=0.881841
tree= 1, node=398, feature=14, thr= 29.00, gain=0.187660
tree= 1, node=796, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=797, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=399, feature=16, thr= 6.00, gain=0.990375
tree= 1, node=798, feature= 7, thr= 47.00, gain=0.157724
tree= 1, node=1596, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1597, feature= 4, thr= 54.00, gain=0.350946
tree= 1, node=3194, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=3195, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=799, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 25, feature= 8, thr= 62.00, gain=0.248790
tree= 1, node= 50, feature= 1, thr= 85.00, gain=0.304388
tree= 1, node=100, feature=11, thr= 19.00, gain=0.602593
tree= 1, node=200, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=201, feature= 2, thr= 72.00, gain=0.456289
tree= 1, node=402, feature=11, thr= 28.00, gain=0.162221
```

```
tree= 1, node=804, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=805, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=403, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=101, feature=12, thr= 24.00, gain=0.383185
tree= 1, node=202, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=203, feature=10, thr= 95.00, gain=0.056384
tree= 1, node=406, feature=10, thr= 55.00, gain=0.123473
tree= 1, node=812, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=813, feature= 9, thr= 41.00, gain=0.154260
tree= 1, node=1626, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1627, feature= 7, thr= 72.00, gain=0.339794
tree= 1, node=3254, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=3255, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=407, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 51, feature= 0, thr= 39.00, gain=0.078193
tree= 1, node=102, feature= 3, thr= 98.00, gain=0.042400
tree= 1, node=204, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=205, feature=14, thr= 16.00, gain=0.064506
tree= 1, node=410, feature= 9, thr= 10.00, gain=0.158651
tree= 1, node=820, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=821, feature= 4, thr= 76.00, gain=0.016677
tree= 1, node=1642, feature= 2, thr= 30.00, gain=0.096361
tree= 1, node=3284, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=3285, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1643, feature=10, thr= 75.00, gain=0.016463
tree= 1, node=3286, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=3287, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=411, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=103, feature=14, thr= 0.00, gain=0.000000
tree= 1, node=206, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=207, feature=12, thr= 52.00, gain=0.091298
tree= 1, node=414, feature= 6, thr= 76.00, gain=0.121134
tree= 1, node=828, feature=15, thr= 6.00, gain=0.023931
tree= 1, node=1656, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1657, feature=11, thr= 18.00, gain=0.055952
tree= 1, node=3314, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=3315, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=829, feature=15, thr= 9.00, gain=0.084822
tree= 1, node=1658, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1659, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=415, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 13, feature= 2, thr= 50.00, gain=0.416510
tree= 1, node= 26, feature= 5, thr= 76.00, gain=0.739417
tree= 1, node= 52, feature= 7, thr= 23.00, gain=0.784501
```

```
tree= 1, node=104, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=105, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 53, feature=16, thr= 4.00, gain=0.804252
tree= 1, node=106, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=107, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 27, feature= 6, thr= 37.00, gain=0.533390
tree= 1, node= 54, feature= 2, thr= 75.00, gain=0.231875
tree= 1, node=108, feature= 5, thr= 77.00, gain=0.765188
tree= 1, node=216, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=217, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=109, feature=15, thr= 3.00, gain=0.748197
tree= 1, node=218, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=219, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 55, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 7, feature= 3, thr= 98.00, gain=0.068945
tree= 1, node= 14, feature= 0, thr= 37.00, gain=0.584630
tree= 1, node= 28, feature= 2, thr= 43.00, gain=0.324591
tree= 1, node= 56, feature= 1, thr= 96.00, gain=0.715663
tree= 1, node=112, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=113, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 57, feature=10, thr= 68.00, gain=0.202158
tree= 1, node=114, feature= 8, thr= 42.00, gain=0.150172
tree= 1, node=228, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=229, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=115, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 29, feature= 2, thr= 19.00, gain=0.206446
tree= 1, node= 58, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 59, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 15, feature= 5, thr= 77.00, gain=0.083081
tree= 1, node= 30, feature=12, thr= 49.00, gain=0.325559
tree= 1, node= 60, feature= 0, thr= 43.00, gain=0.796619
tree= 1, node=120, feature= 5, thr= 69.00, gain=0.022376
tree= 1, node=240, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=241, feature= 9, thr= 10.00, gain=0.122993
tree= 1, node=482, feature= 0, thr= 16.00, gain=0.090419
tree= 1, node=964, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=965, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=483, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=121, feature=10, thr= 39.00, gain=0.117595
tree= 1, node=242, feature=11, thr= 13.00, gain=0.115448
tree= 1, node=484, feature= 0, thr= 73.00, gain=0.340957
tree= 1, node=968, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=969, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=485, feature=13, thr= 42.00, gain=0.522559
```

```
tree= 1, node=970, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=971, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=243, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 61, feature=15, thr= 35.00, gain=0.724328
tree= 1, node=122, feature=12, thr= 70.00, gain=0.203320
tree= 1, node=244, feature= 7, thr= 54.00, gain=0.135643
tree= 1, node=488, feature=12, thr= 51.00, gain=0.085445
tree= 1, node=976, feature= 0, thr= 13.00, gain=0.169457
tree= 1, node=1952, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1953, feature= 8, thr= 39.00, gain=0.200310
tree= 1, node=3906, feature= 6, thr= 55.00, gain=0.082216
tree= 1, node=7812, feature=14, thr=100.00, gain=0.000000
tree= 1, node=15624, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=15625, feature= 4, thr= 70.00, gain=0.160304
tree= 1, node=31250, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=31251, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=7813, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=3907, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=977, feature=15, thr= 24.00, gain=0.108023
tree= 1, node=1954, feature= 4, thr= 1.00, gain=0.164171
tree= 1, node=3908, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=3909, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1955, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=489, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=245, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=123, feature= 5, thr= 71.00, gain=0.042100
tree= 1, node=246, feature=12, thr= 67.00, gain=0.542074
tree= 1, node=492, feature= 6, thr= 67.00, gain=0.270310
tree= 1, node=984, feature=15, thr= 69.00, gain=0.796270
tree= 1, node=1968, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1969, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=985, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=493, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=247, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 31, feature= 9, thr= 10.00, gain=0.235235
tree= 1, node= 62, feature= 6, thr= 53.00, gain=0.345355
tree= 1, node=124, feature= 0, thr= 33.00, gain=0.918974
tree= 1, node=248, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=249, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=125, feature=11, thr= 16.00, gain=0.069217
tree= 1, node=250, feature=11, thr= 12.00, gain=0.035720
tree= 1, node=500, feature=12, thr= 47.00, gain=0.209299
tree= 1, node=1000, feature=15, thr= 4.00, gain=0.302174
tree= 1, node=2000, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 1, node=2001, feature=13, thr= 44.00, gain=0.066976
tree= 1, node=4002, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=4003, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1001, feature= 1, thr= 81.00, gain=0.604936
tree= 1, node=2002, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=2003, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=501, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=251, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node= 63, feature= 5, thr= 89.00, gain=0.078492
tree= 1, node=126, feature= 6, thr= 62.00, gain=0.252845
tree= 1, node=252, feature=15, thr= 26.00, gain=0.118097
tree= 1, node=504, feature= 2, thr= 40.00, gain=0.202122
tree= 1, node=1008, feature= 0, thr= 37.00, gain=0.130163
tree= 1, node=2016, feature= 9, thr= 37.00, gain=0.193823
tree= 1, node=4032, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=4033, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=2017, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1009, feature=16, thr= 3.00, gain=0.894107
tree= 1, node=2018, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=2019, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=505, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=253, feature=14, thr= 93.00, gain=0.243358
tree= 1, node=506, feature=11, thr= 1.00, gain=0.826746
tree= 1, node=1012, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1013, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=507, feature= 3, thr=100.00, gain=0.000000
tree= 1, node=1014, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1015, feature= 1, thr= 84.00, gain=0.204882
tree= 1, node=2030, feature= 6, thr= 74.00, gain=0.029489
tree= 1, node=4060, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=4061, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=2031, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=127, feature=10, thr= 41.00, gain=0.378330
tree= 1, node=254, feature=16, thr= 3.00, gain=0.776011
tree= 1, node=508, feature= 3, thr= 99.00, gain=0.001626
tree= 1, node=1016, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1017, feature=13, thr= 4.00, gain=0.021913
tree= 1, node=2034, feature= 3, thr= 99.00, gain=0.000000
tree= 1, node=4068, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=4069, feature= 7, thr= 60.00, gain=0.176211
tree= 1, node=8138, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=8139, feature= 5, thr= 97.00, gain=0.067728
tree= 1, node=16278, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=16279, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 1, node=2035, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=509, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=255, feature= 2, thr= 58.00, gain=0.566510
tree= 1, node=510, feature= 9, thr= 35.00, gain=0.088180
tree= 1, node=1020, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=1021, feature=-1, thr= -1.00, gain=0.000000
tree= 1, node=511, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 1, feature= 0, thr= 50.00, gain=0.320711
tree= 2, node= 2, feature=16, thr= 4.00, gain=0.996921
tree= 2, node= 4, feature= 5, thr= 47.00, gain=0.747820
tree= 2, node= 8, feature= 3, thr= 96.00, gain=0.045099
tree= 2, node= 16, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 17, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 9, feature= 0, thr= 1.00, gain=0.148898
tree= 2, node= 18, feature=11, thr= 38.00, gain=0.551272
tree= 2, node= 36, feature= 2, thr= 35.00, gain=0.192169
tree= 2, node= 72, feature=12, thr= 70.00, gain=0.112820
tree= 2, node=144, feature=15, thr= 3.00, gain=0.038846
tree= 2, node=288, feature=11, thr= 13.00, gain=0.119660
tree= 2, node=576, feature= 6, thr= 73.00, gain=0.082255
tree= 2, node=1152, feature=16, thr= 1.00, gain=0.000000
tree= 2, node=2304, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=2305, feature= 7, thr= 60.00, gain=0.037522
tree= 2, node=4610, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=4611, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1153, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=577, feature=10, thr= 59.00, gain=0.668470
tree= 2, node=1154, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1155, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=289, feature= 7, thr= 61.00, gain=0.076536
tree= 2, node=578, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=579, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=145, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 73, feature= 6, thr= 48.00, gain=0.048436
tree= 2, node=146, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=147, feature= 7, thr= 74.00, gain=0.117598
tree= 2, node=294, feature=11, thr= 4.00, gain=0.411972
tree= 2, node=588, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=589, feature= 0, thr= 0.00, gain=0.000000
tree= 2, node=1178, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1179, feature=16, thr= 2.00, gain=0.503258
tree= 2, node=2358, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=2359, feature=10, thr= 35.00, gain=0.983708
tree= 2, node=4718, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 2, node=4719, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=295, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 37, feature=14, thr= 15.00, gain=0.007047
tree= 2, node= 74, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 75, feature=11, thr= 48.00, gain=0.025494
tree= 2, node=150, feature=11, thr= 40.00, gain=0.041952
tree= 2, node=300, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=301, feature=16, thr= 2.00, gain=0.209060
tree= 2, node=602, feature=11, thr= 46.00, gain=0.015741
tree= 2, node=1204, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1205, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=603, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=151, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 19, feature= 1, thr= 75.00, gain=0.201157
tree= 2, node= 38, feature= 0, thr= 5.00, gain=0.017182
tree= 2, node= 76, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 77, feature= 8, thr= 52.00, gain=0.435916
tree= 2, node=154, feature= 9, thr= 44.00, gain=0.049033
tree= 2, node=308, feature=16, thr= 1.00, gain=0.000000
tree= 2, node=616, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=617, feature=10, thr= 1.00, gain=0.043870
tree= 2, node=1234, feature=10, thr= 0.00, gain=0.000000
tree= 2, node=2468, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=2469, feature=12, thr= 24.00, gain=0.036927
tree= 2, node=4938, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=4939, feature= 4, thr= 76.00, gain=0.123827
tree= 2, node=9878, feature=15, thr= 1.00, gain=0.171864
tree= 2, node=19756, feature= 7, thr= 54.00, gain=0.197401
tree= 2, node=39512, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=39513, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=19757, feature= 0, thr= 17.00, gain=0.171809
tree= 2, node=39514, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=39515, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=9879, feature=14, thr= 96.00, gain=0.005461
tree= 2, node=19758, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=19759, feature= 7, thr= 46.00, gain=0.048000
tree= 2, node=39518, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=39519, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1235, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=309, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=155, feature= 4, thr= 59.00, gain=0.065798
tree= 2, node=310, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=311, feature=15, thr= 9.00, gain=0.314511
tree= 2, node=622, feature=13, thr= 2.00, gain=0.161100
```

```
tree= 2, node=1244, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1245, feature=12, thr= 39.00, gain=0.138363
tree= 2, node=2490, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=2491, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=623, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 39, feature=14, thr= 1.00, gain=0.919584
tree= 2, node= 78, feature= 0, thr= 42.00, gain=0.005781
tree= 2, node=156, feature= 8, thr= 77.00, gain=0.041850
tree= 2, node=312, feature=12, thr= 27.00, gain=0.286377
tree= 2, node=624, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=625, feature= 9, thr= 28.00, gain=0.111910
tree= 2, node=1250, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1251, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=313, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=157, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 79, feature=15, thr= 3.00, gain=0.092480
tree= 2, node=158, feature= 9, thr= 47.00, gain=0.048547
tree= 2, node=316, feature=15, thr= 1.00, gain=0.016653
tree= 2, node=632, feature= 9, thr= 22.00, gain=0.026936
tree= 2, node=1264, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1265, feature=12, thr= 41.00, gain=0.105915
tree= 2, node=2530, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=2531, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=633, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=317, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=159, feature= 9, thr= 31.00, gain=0.086263
tree= 2, node=318, feature= 9, thr= 11.00, gain=0.066325
tree= 2, node=636, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=637, feature=13, thr= 2.00, gain=0.024773
tree= 2, node=1274, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1275, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=319, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 5, feature=10, thr= 56.00, gain=0.427250
tree= 2, node= 10, feature= 0, thr= 1.00, gain=0.428803
tree= 2, node= 20, feature= 8, thr= 29.00, gain=0.117091
tree= 2, node= 40, feature= 8, thr= 13.00, gain=0.271750
tree= 2, node= 80, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 81, feature= 6, thr= 66.00, gain=0.226714
tree= 2, node=162, feature= 1, thr= 91.00, gain=0.194267
tree= 2, node=324, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=325, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=163, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 41, feature=14, thr= 92.00, gain=0.036565
tree= 2, node= 82, feature=12, thr= 51.00, gain=0.072565
```

```
tree= 2, node=164, feature=15, thr= 52.00, gain=0.317658
tree= 2, node=328, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=329, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=165, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 83, feature= 3, thr= 85.00, gain=0.119116
tree= 2, node=166, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=167, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 21, feature=14, thr= 98.00, gain=0.367667
tree= 2, node= 42, feature= 2, thr= 47.00, gain=0.296821
tree= 2, node= 84, feature= 8, thr= 25.00, gain=0.517431
tree= 2, node=168, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=169, feature= 7, thr= 31.00, gain=0.433189
tree= 2, node=338, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=339, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 85, feature= 7, thr= 64.00, gain=0.496873
tree= 2, node=170, feature=16, thr= 7.00, gain=0.198235
tree= 2, node=340, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=341, feature= 0, thr= 20.00, gain=0.173373
tree= 2, node=682, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=683, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=171, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 43, feature=15, thr= 81.00, gain=0.584308
tree= 2, node= 86, feature= 4, thr= 27.00, gain=0.591673
tree= 2, node=172, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=173, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 87, feature=12, thr= 67.00, gain=0.015858
tree= 2, node=174, feature= 7, thr= 34.00, gain=0.064505
tree= 2, node=348, feature=12, thr= 51.00, gain=0.007115
tree= 2, node=696, feature= 8, thr= 12.00, gain=0.006046
tree= 2, node=1392, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1393, feature= 9, thr= 17.00, gain=0.020336
tree= 2, node=2786, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=2787, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=697, feature= 4, thr= 32.00, gain=0.055457
tree= 2, node=1394, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1395, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=349, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=175, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 11, feature= 8, thr= 60.00, gain=0.368067
tree= 2, node= 22, feature=15, thr= 1.00, gain=0.798121
tree= 2, node= 44, feature= 4, thr= 31.00, gain=0.827075
tree= 2, node= 88, feature= 7, thr= 53.00, gain=0.127419
tree= 2, node=176, feature= 4, thr= 8.00, gain=0.037628
tree= 2, node=352, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 2, node=353, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=177, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 89, feature=14, thr= 27.00, gain=0.271582
tree= 2, node=178, feature=11, thr= 51.00, gain=0.733358
tree= 2, node=356, feature=10, thr= 94.00, gain=0.091233
tree= 2, node=712, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=713, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=357, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=179, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 45, feature= 6, thr= 44.00, gain=0.223682
tree= 2, node= 90, feature= 5, thr= 39.00, gain=0.454771
tree= 2, node=180, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=181, feature=10, thr= 75.00, gain=0.146672
tree= 2, node=362, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=363, feature=11, thr= 23.00, gain=0.677928
tree= 2, node=726, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=727, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 91, feature= 2, thr= 25.00, gain=0.066577
tree= 2, node=182, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=183, feature= 8, thr= 47.00, gain=0.236121
tree= 2, node=366, feature= 2, thr= 38.00, gain=0.034144
tree= 2, node=732, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=733, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=367, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 23, feature=13, thr= 17.00, gain=0.422886
tree= 2, node= 46, feature= 2, thr= 92.00, gain=0.386432
tree= 2, node= 92, feature=11, thr= 1.00, gain=0.199598
tree= 2, node=184, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=185, feature= 4, thr= 82.00, gain=0.084648
tree= 2, node=370, feature= 2, thr= 69.00, gain=0.206619
tree= 2, node=740, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=741, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=371, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 93, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 47, feature= 1, thr= 98.00, gain=0.464249
tree= 2, node= 94, feature= 9, thr= 76.00, gain=0.314757
tree= 2, node=188, feature=16, thr= 5.00, gain=0.601143
tree= 2, node=376, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=377, feature= 2, thr= 55.00, gain=0.165444
tree= 2, node=754, feature= 7, thr= 61.00, gain=0.038942
tree= 2, node=1508, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1509, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=755, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=189, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 2, node= 95, feature= 3, thr= 95.00, gain=0.160831
tree= 2, node=190, feature= 1, thr= 99.00, gain=0.000000
tree= 2, node=380, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=381, feature=12, thr= 63.00, gain=0.048912
tree= 2, node=762, feature= 0, thr= 45.00, gain=0.096171
tree= 2, node=1524, feature=11, thr= 43.00, gain=0.223526
tree= 2, node=3048, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=3049, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1525, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=763, feature= 3, thr= 92.00, gain=0.013450
tree= 2, node=1526, feature=13, thr= 55.00, gain=0.033270
tree= 2, node=3052, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=3053, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1527, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=191, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 3, feature=13, thr= 45.00, gain=0.483835
tree= 2, node= 6, feature= 2, thr= 66.00, gain=0.174729
tree= 2, node= 12, feature= 4, thr= 37.00, gain=0.279297
tree= 2, node= 24, feature=11, thr= 39.00, gain=0.608196
tree= 2, node= 48, feature= 6, thr= 30.00, gain=0.504891
tree= 2, node= 96, feature= 0, thr= 87.00, gain=0.091615
tree= 2, node=192, feature= 3, thr= 99.00, gain=0.059465
tree= 2, node=384, feature= 6, thr= 1.00, gain=0.085188
tree= 2, node=768, feature= 5, thr= 63.00, gain=0.112815
tree= 2, node=1536, feature= 3, thr= 88.00, gain=0.032536
tree= 2, node=3072, feature= 0, thr= 82.00, gain=0.035352
tree= 2, node=6144, feature=15, thr= 1.00, gain=0.655024
tree= 2, node=12288, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=12289, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=6145, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=3073, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1537, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=769, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=385, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=193, feature= 7, thr= 42.00, gain=0.386692
tree= 2, node=386, feature= 0, thr= 94.00, gain=0.010074
tree= 2, node=772, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=773, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=387, feature= 5, thr= 79.00, gain=0.375494
tree= 2, node=774, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=775, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 97, feature= 1, thr= 90.00, gain=0.428305
tree= 2, node=194, feature= 0, thr= 77.00, gain=0.038220
tree= 2, node=388, feature=-1, thr= -1.00, gain=0.000000
```

```
tree= 2, node=389, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=195, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 49, feature= 8, thr= 72.00, gain=0.073453
tree= 2, node= 98, feature= 5, thr= 71.00, gain=0.386201
tree= 2, node=196, feature=13, thr= 40.00, gain=0.138227
tree= 2, node=392, feature= 8, thr= 67.00, gain=0.052950
tree= 2, node=784, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=785, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=393, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=197, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 99, feature= 0, thr= 79.00, gain=0.392129
tree= 2, node=198, feature= 9, thr= 73.00, gain=0.293660
tree= 2, node=396, feature=11, thr= 48.00, gain=0.024351
tree= 2, node=792, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=793, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=397, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=199, feature=14, thr= 82.00, gain=0.044497
tree= 2, node=398, feature= 8, thr= 83.00, gain=0.087677
tree= 2, node=796, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=797, feature= 8, thr= 96.00, gain=0.033570
tree= 2, node=1594, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1595, feature=14, thr= 1.00, gain=0.068796
tree= 2, node=3190, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=3191, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=399, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 25, feature= 8, thr= 66.00, gain=0.460010
tree= 2, node= 50, feature= 8, thr= 54.00, gain=0.119545
tree= 2, node=100, feature= 5, thr= 82.00, gain=0.235666
tree= 2, node=200, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=201, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=101, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 51, feature=11, thr= 32.00, gain=0.107571
tree= 2, node=102, feature= 9, thr= 1.00, gain=0.273769
tree= 2, node=204, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=205, feature= 4, thr= 84.00, gain=0.474252
tree= 2, node=410, feature= 6, thr= 66.00, gain=0.046632
tree= 2, node=820, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=821, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=411, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=103, feature= 6, thr= 89.00, gain=0.020380
tree= 2, node=206, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=207, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 13, feature=14, thr= 39.00, gain=0.456689
tree= 2, node= 26, feature= 9, thr= 27.00, gain=0.762800
```

```
tree= 2, node= 52, feature=14, thr= 1.00, gain=0.063289
tree= 2, node=104, feature= 7, thr= 47.00, gain=0.387889
tree= 2, node=208, feature=11, thr= 8.00, gain=0.029738
tree= 2, node=416, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=417, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=209, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=105, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 53, feature= 3, thr= 92.00, gain=0.191585
tree= 2, node=106, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=107, feature= 7, thr= 63.00, gain=0.275541
tree= 2, node=214, feature= 8, thr= 56.00, gain=0.215341
tree= 2, node=428, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=429, feature= 3, thr= 94.00, gain=0.013477
tree= 2, node=858, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=859, feature= 6, thr= 49.00, gain=0.482198
tree= 2, node=1718, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1719, feature=14, thr= 0.00, gain=0.000000
tree= 2, node=3438, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=3439, feature=14, thr= 0.00, gain=0.000000
tree= 2, node=6878, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=6879, feature=16, thr= 4.00, gain=0.611552
tree= 2, node=13758, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=13759, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=215, feature=10, thr= 59.00, gain=0.297465
tree= 2, node=430, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=431, feature=16, thr= 6.00, gain=0.988111
tree= 2, node=862, feature= 9, thr= 48.00, gain=0.251198
tree= 2, node=1724, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1725, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=863, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 27, feature=12, thr= 64.00, gain=0.943134
tree= 2, node= 54, feature=16, thr= 3.00, gain=0.878674
tree= 2, node=108, feature=13, thr= 11.00, gain=0.150762
tree= 2, node=216, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=217, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=109, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 55, feature=16, thr= 5.00, gain=0.386019
tree= 2, node=110, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=111, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 7, feature= 6, thr= 43.00, gain=0.289054
tree= 2, node= 14, feature= 5, thr= 47.00, gain=0.136896
tree= 2, node= 28, feature= 2, thr= 31.00, gain=0.220298
tree= 2, node= 56, feature= 7, thr= 3.00, gain=0.089166
tree= 2, node=112, feature=10, thr= 74.00, gain=0.741157
```

```
tree= 2, node=224, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=225, feature=12, thr= 51.00, gain=0.067360
tree= 2, node=450, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=451, feature= 6, thr= 39.00, gain=0.026987
tree= 2, node=902, feature= 1, thr= 84.00, gain=0.051407
tree= 2, node=1804, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1805, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=903, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=113, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 57, feature=12, thr= 54.00, gain=0.631874
tree= 2, node=114, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=115, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 29, feature= 8, thr= 19.00, gain=0.243609
tree= 2, node= 58, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 59, feature= 6, thr= 26.00, gain=0.404107
tree= 2, node=118, feature=10, thr= 17.00, gain=0.237508
tree= 2, node=236, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=237, feature=11, thr= 33.00, gain=0.138070
tree= 2, node=474, feature= 9, thr= 0.00, gain=0.000000
tree= 2, node=948, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=949, feature= 3, thr= 96.00, gain=0.174788
tree= 2, node=1898, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=1899, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=475, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=119, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 15, feature= 0, thr= 75.00, gain=0.115187
tree= 2, node= 30, feature=12, thr= 84.00, gain=0.253840
tree= 2, node= 60, feature= 9, thr= 21.00, gain=0.762994
tree= 2, node=120, feature=11, thr= 39.00, gain=0.525324
tree= 2, node=240, feature= 8, thr= 33.00, gain=0.063438
tree= 2, node=480, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=481, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=241, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=121, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 61, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 31, feature=14, thr= 33.00, gain=0.081287
tree= 2, node= 62, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node= 63, feature= 7, thr= 35.00, gain=0.085659
tree= 2, node=126, feature= 0, thr= 78.00, gain=0.035743
tree= 2, node=252, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=253, feature=-1, thr= -1.00, gain=0.000000
tree= 2, node=127, feature=-1, thr= -1.00, gain=0.000000
```