The SAS System

Obs	class	age	menopause	tumor_size	inv_nodes	node_caps	deg_malig	breast	breast_quad	irradiat
1	no-recurrence-events	30-39	premeno	30-34	0-2	no	3	left	left_low	no
2	no-recurrence-events	40-49	premeno	20-24	0-2	no	2	right	right_up	no
3	no-recurrence-events	40-49	premeno	20-24	0-2	no	2	left	left_low	no
4	no-recurrence-events	60-69	ge40	15-19	0-2	no	2	right	left_up	no
5	no-recurrence-events	40-49	premeno	0-4	0-2	no	2	right	right_low	no
6	no-recurrence-events	60-69	ge40	15-19	0-2	no	2	left	left_low	no
7	no-recurrence-events	50-59	premeno	25-29	0-2	no	2	left	left_low	no
8	no-recurrence-events	60-69	ge40	20-24	0-2	no	1	left	left_low	no
9	no-recurrence-events	40-49	premeno	50-54	0-2	no	2	left	left_low	no
10	no-recurrence-events	40-49	premeno	20-24	0-2	no	2	right	left_up	no
11	no-recurrence-events	40-49	premeno	0-4	0-2	no	3	left	central	no
12	no-recurrence-events	50-59	ge40	25-29	0-2	no	2	left	left_low	no
13	no-recurrence-events	60-69	lt40	10-14	0-2	no	1	left	right_up	no
14	no-recurrence-events	50-59	ge40	25-29	0-2	no	3	left	right_up	no
15	no-recurrence-events	40-49	premeno	30-34	0-2	no	3	left	left_up	no
16	no-recurrence-events	60-69	lt40	30-34	0-2	no	1	left	left_low	no
17	no-recurrence-events	40-49	premeno	15-19	0-2	no	2	left	left_low	no
18	no-recurrence-	50-59	premeno	30-34	0-2	no	3	left	left_low	no

	events									
19	no-recurrence-events	60-69	ge40	30-34	0-2	no	3	left	left_low	no
20	no-recurrence-events	50-59	ge40	30-34	0-2	no	1	right	right_up	no
21	no-recurrence-events	50-59	ge40	40-44	0-2	no	2	left	left_low	no
22	no-recurrence-events	60-69	ge40	15-19	0-2	no	2	left	left_low	no
23	no-recurrence-events	30-39	premeno	25-29	0-2	no	2	right	left_low	no
24	no-recurrence-events	50-59	premeno	40-44	0-2	no	2	left	left_up	no
25	no-recurrence-events	50-59	premeno	35-39	0-2	no	2	right	left_up	no
26	no-recurrence-events	40-49	premeno	25-29	0-2	no	2	left	left_up	no
27	no-recurrence-events	50-59	premeno	20-24	0-2	no	1	left	left_low	no
28	no-recurrence-events	60-69	ge40	25-29	0-2	no	3	right	left_up	no
29	no-recurrence-events	40-49	premeno	40-44	0-2	no	2	right	left_low	no
30	no-recurrence-events	60-69	ge40	30-34	0-2	no	2	left	left_low	no
31	no-recurrence-events	50-59	ge40	40-44	0-2	no	3	right	left_up	no
32	no-recurrence-events	50-59	premeno	15-19	0-2	no	2	right	left_low	no
33	no-recurrence-events	50-59	premeno	10-14	0-2	no	3	left	left_low	no
34	no-recurrence-events	50-59	ge40	10-14	0-2	no	1	right	left_up	no
35	no-recurrence-events	50-59	ge40	10-14	0-2	no	1	left	left_up	no
36	no-recurrence-events	30-39	premeno	30-34	0-2	no	2	left	left_up	no
37	no-	50-59	ge40	0-4	0-2	no	2	left	central	no

	recurrence-events								
38	no-recurrence-events	50-59	ge40	15-19	0-2	no	1	right	central	no
39	no-recurrence-events	40-49	premeno	10-14	0-2	no	2	left	left_low	no
40	no-recurrence-events	40-49	premeno	30-34	0-2	no	1	left	left_low	no
41	no-recurrence-events	50-59	ge40	20-24	0-2	no	1	right	left_low	no
42	no-recurrence-events	60-69	ge40	25-29	0-2	no	2	left	left_low	no
43	no-recurrence-events	60-69	ge40	5-9	0-2	no	1	left	central	no
44	no-recurrence-events	40-49	premeno	10-14	0-2	no	2	left	left_up	no
45	no-recurrence-events	50-59	ge40	50-54	0-2	no	1	right	right_up	no
46	no-recurrence-events	50-59	ge40	30-34	0-2	no	1	left	left_up	no
47	no-recurrence-events	40-49	premeno	25-29	0-2	no	2	right	left_low	no
48	no-recurrence-events	50-59	premeno	25-29	0-2	no	1	right	left_up	no
49	no-recurrence-events	40-49	premeno	20-24	0-2	no	1	right	right_up	no
50	no-recurrence-events	40-49	premeno	20-24	0-2	no	1	right	left_low	no
51	no-recurrence-events	50-59	lt40	15-19	0-2	no	2	left	left_low	no
52	no-recurrence-events	30-39	premeno	20-24	0-2	no	2	left	right_low	no
53	no-recurrence-events	50-59	premeno	15-19	0-2	no	1	left	left_low	no
54	no-recurrence-events	70-79	ge40	20-24	0-2	no	3	left	left_up	no
55	no-recurrence-events	70-79	ge40	40-44	0-2	no	1	right	left_up	no

56	no-recurrence-events	70-79	ge40	40-44	0-2	no	1	right	right_up	no
57	no-recurrence-events	50-59	ge40	0-4	0-2	no	1	right	central	no
58	no-recurrence-events	50-59	ge40	5-9	0-2	no	2	right	right_up	no
59	no-recurrence-events	60-69	ge40	30-34	0-2	no	1	left	left_up	no
60	no-recurrence-events	60-69	ge40	15-19	0-2	no	1	right	left_up	no
61	no-recurrence-events	40-49	premeno	20-24	0-2	no	2	left	central	no
62	no-recurrence-events	40-49	premeno	10-14	0-2	no	1	right	right_low	no
63	no-recurrence-events	50-59	ge40	0-4	0-2	no	1	left	left_low	no
64	no-recurrence-events	20-29	premeno	35-39	0-2	no	2	right	right_up	no
65	no-recurrence-events	40-49	premeno	25-29	0-2	no	1	left	right_low	no
66	no-recurrence-events	40-49	premeno	10-14	0-2	no	1	right	left_up	no
67	no-recurrence-events	40-49	premeno	25-29	0-2	no	1	right	right_low	no
68	no-recurrence-events	50-59	ge40	20-24	0-2	no	3	left	left_up	no
69	no-recurrence-events	50-59	ge40	35-39	0-2	no	3	left	left_low	no
70	no-recurrence-events	60-69	ge40	50-54	0-2	no	2	left	left_low	no
71	no-recurrence-events	60-69	ge40	10-14	0-2	no	1	left	left_low	no
72	no-recurrence-events	40-49	premeno	25-29	0-2	no	2	right	left_up	no
73	no-recurrence-events	60-69	ge40	20-24	0-2	no	2	left	left_up	no
74	no-recurrence-events	50-59	premeno	15-19	0-2	no	2	right	right_low	no

75	no-recurrence-events	30-39	premeno	5-9	0-2	no	2	left	right_low	no
76	no-recurrence-events	50-59	ge40	10-14	0-2	no	1	left	left_low	no
77	no-recurrence-events	50-59	ge40	10-14	0-2	no	2	left	left_low	no
78	no-recurrence-events	30-39	premeno	25-29	0-2	no	1	left	central	no
79	no-recurrence-events	50-59	premeno	25-29	0-2	no	2	left	left_low	no
80	no-recurrence-events	40-49	premeno	25-29	0-2	no	2	right	central	no
81	no-recurrence-events	50-59	ge40	10-14	0-2	no	2	right	left_low	no
82	no-recurrence-events	60-69	ge40	10-14	0-2	no	1	left	left_up	no
83	no-recurrence-events	60-69	ge40	15-19	0-2	no	2	right	left_low	no
84	no-recurrence-events	50-59	ge40	15-19	0-2	no	2	right	left_low	no
85	no-recurrence-events	40-49	premeno	20-24	0-2	no	1	left	right_low	no
86	no-recurrence-events	50-59	ge40	35-39	0-2	no	3	left	left_up	no
87	no-recurrence-events	60-69	ge40	25-29	0-2	no	2	right	left_low	no
88	no-recurrence-events	70-79	ge40	0-4	0-2	no	1	left	right_low	no
89	no-recurrence-events	50-59	ge40	20-24	0-2	no	3	right	left_up	no
90	no-recurrence-events	40-49	premeno	40-44	0-2	no	1	right	left_up	no
91	no-recurrence-events	30-39	premeno	0-4	0-2	no	2	right	central	no
92	no-recurrence-events	50-59	ge40	20-24	0-2	no	3	left	left_up	no
93	no-recurrence-events	50-59	ge40	25-29	0-2	no	2	right	left_up	no

94	no-recurrence-events	60-69	ge40	20-24	0-2	no	2	right	left_up	no
95	no-recurrence-events	50-59	premeno	10-14	0-2	no	1	left	left_low	no
96	no-recurrence-events	40-49	premeno	30-34	0-2	no	2	right	right_low	no
97	no-recurrence-events	60-69	ge40	30-34	0-2	no	2	left	left_up	no
98	no-recurrence-events	60-69	ge40	15-19	0-2	no	2	right	left_up	no
99	no-recurrence-events	40-49	premeno	30-34	0-2	no	1	left	right_up	no
100	no-recurrence-events	30-39	premeno	25-29	0-2	no	2	left	left_low	no
101	no-recurrence-events	40-49	ge40	20-24	0-2	no	3	left	left_low	no
102	no-recurrence-events	50-59	ge40	30-34	0-2	no	3	right	left_low	no
103	no-recurrence-events	50-59	premeno	25-29	0-2	no	2	right	right_low	no
104	no-recurrence-events	40-49	premeno	20-24	0-2	no	2	left	right_low	no
105	no-recurrence-events	40-49	premeno	10-14	0-2	no	2	right	left_low	no
106	no-recurrence-events	40-49	premeno	30-34	0-2	no	1	right	left_up	no
107	no-recurrence-events	40-49	premeno	20-24	0-2	no	2	left	left_up	no
108	no-recurrence-events	30-39	premeno	40-44	0-2	no	2	right	right_up	no
109	no-recurrence-events	40-49	premeno	30-34	0-2	no	3	right	right_up	no
110	no-recurrence-events	60-69	ge40	30-34	0-2	no	1	right	left_up	no
111	no-recurrence-events	50-59	ge40	25-29	0-2	no	1	left	left_low	no
112	no-recurrence-events	50-59	ge40	15-19	0-2	no	1	right	central	no

113	no-recurrence-events	40-49	premeno	20-24	0-2	no	2	right	left_up	no
114	no-recurrence-events	40-49	premeno	10-14	0-2	no	1	right	left_up	no
115	no-recurrence-events	40-49	premeno	35-39	0-2	no	2	right	right_up	no
116	no-recurrence-events	50-59	ge40	20-24	0-2	no	2	right	left_up	no
117	no-recurrence-events	30-39	premeno	15-19	0-2	no	1	left	left_low	no
118	no-recurrence-events	40-49	ge40	20-24	0-2	no	3	left	left_up	no
119	no-recurrence-events	30-39	premeno	10-14	0-2	no	1	right	left_low	no
120	no-recurrence-events	60-69	ge40	15-19	0-2	no	1	left	right_low	no
121	no-recurrence-events	60-69	ge40	20-24	0-2	no	1	left	left_low	no
122	no-recurrence-events	50-59	ge40	15-19	0-2	no	2	right	right_up	no
123	no-recurrence-events	50-59	ge40	40-44	0-2	no	3	left	left_up	no
124	no-recurrence-events	50-59	ge40	30-34	0-2	no	1	right	left_low	no
125	no-recurrence-events	60-69	ge40	10-14	0-2	no	1	right	left_low	no
126	no-recurrence-events	70-79	ge40	10-14	0-2	no	2	left	central	no
127	no-recurrence-events	30-39	premeno	30-34	6-8	ye	2	right	right_up	no
128	no-recurrence-events	30-39	premeno	25-29	6-8	ye	2	right	left_up	ye
129	no-recurrence-events	50-59	premeno	25-29	0-2	ye	2	left	left_up	no
130	no-recurrence-events	40-49	premeno	35-39	9-1	ye	2	right	left_up	ye
131	no-recurrence-events	40-49	premeno	35-39	9-1	ye	2	right	right_up	ye

132	no-recurrence-events	40-49	premeno	40-44	3-5	ye	3	right	left_up	ye
133	no-recurrence-events	40-49	premeno	30-34	6-8	no	2	left	left_up	no
134	no-recurrence-events	50-59	ge40	40-44	0-2	no	3	left	right_up	no
135	no-recurrence-events	60-69	ge40	30-34	0-2	no	2	left	left_low	ye
136	no-recurrence-events	30-39	premeno	20-24	3-5	no	2	right	central	no
137	no-recurrence-events	30-39	premeno	40-44	3-5	no	3	right	right_up	ye
138	no-recurrence-events	40-49	premeno	5-9	0-2	no	1	left	left_low	ye
139	no-recurrence-events	30-39	premeno	40-44	0-2	no	2	left	left_low	ye
140	no-recurrence-events	40-49	premeno	30-34	0-2	no	2	left	right_low	no
141	no-recurrence-events	50-59	ge40	40-44	3-5	ye	2	left	left_low	no
142	no-recurrence-events	50-59	premeno	20-24	3-5	ye	2	left	left_low	no
143	no-recurrence-events	60-69	ge40	10-14	0-2	no	1	left	left_up	no
144	no-recurrence-events	40-49	premeno	45-49	0-2	no	2	left	left_low	ye
145	no-recurrence-events	60-69	ge40	45-49	6-8	ye	3	left	central	no
146	no-recurrence-events	40-49	premeno	25-29	0-2	?	2	left	right_low	ye
147	no-recurrence-events	60-69	ge40	50-54	0-2	no	2	right	left_up	ye
148	no-recurrence-events	50-59	premeno	30-34	3-5	ye	2	left	left_low	ye
149	no-recurrence-events	30-39	premeno	20-24	0-2	no	3	left	central	no
150	no-recurrence-events	50-59	lt40	30-34	0-2	no	3	right	left_up	no

151	no-recurrence-events	50-59	ge40	25-29	15-	ye	3	right	left_up	no
152	no-recurrence-events	60-69	ge40	30-34	3-5	ye	3	left	left_low	no
153	no-recurrence-events	50-59	ge40	35-39	15-	no	3	left	left_low	no
154	no-recurrence-events	60-69	ge40	15-19	0-2	no	3	right	left_up	ye
155	no-recurrence-events	30-39	lt40	15-19	0-2	no	3	right	left_up	no
156	no-recurrence-events	60-69	ge40	40-44	3-5	no	2	right	left_up	ye
157	no-recurrence-events	50-59	ge40	25-29	3-5	ye	3	right	left_up	no
158	no-recurrence-events	50-59	premeno	30-34	0-2	no	1	left	central	no
159	no-recurrence-events	50-59	ge40	30-34	0-2	no	1	right	central	no
160	no-recurrence-events	40-49	premeno	35-39	0-2	no	1	left	left_low	no
161	no-recurrence-events	40-49	premeno	25-29	0-2	no	3	right	left_up	ye
162	no-recurrence-events	40-49	premeno	30-34	3-5	ye	2	right	left_low	no
163	no-recurrence-events	60-69	ge40	10-14	0-2	no	2	right	left_up	ye
164	no-recurrence-events	60-69	ge40	25-29	3-5	?	1	right	left_up	ye
165	no-recurrence-events	60-69	ge40	25-29	3-5	?	1	right	left_low	ye
166	no-recurrence-events	40-49	premeno	20-24	3-5	no	2	right	left_up	no
167	no-recurrence-events	40-49	premeno	20-24	3-5	no	2	right	left_low	no
168	no-recurrence-events	40-49	ge40	40-44	15-	ye	2	right	left_up	ye
169	no-recurrence-events	50-59	premeno	10-14	0-2	no	2	right	left_up	no

170	no-recurrence-events	40-49	ge40	30-34	0-2	no	2	left	left_up	ye
171	no-recurrence-events	30-39	premeno	20-24	3-5	ye	2	right	left_up	ye
172	no-recurrence-events	30-39	premeno	15-19	0-2	no	1	left	left_low	no
173	no-recurrence-events	60-69	ge40	30-34	6-8	ye	2	right	right_up	no
174	no-recurrence-events	50-59	ge40	20-24	3-5	ye	2	right	left_up	no
175	no-recurrence-events	50-59	premeno	25-29	3-5	ye	2	left	left_low	ye
176	no-recurrence-events	40-49	premeno	30-34	0-2	no	2	right	right_up	ye
177	no-recurrence-events	40-49	ge40	25-29	0-2	no	2	left	left_low	no
178	no-recurrence-events	60-69	ge40	10-14	0-2	no	2	left	left_low	no
179	no-recurrence-events	50-59	premeno	25-29	3-5	no	2	right	left_up	ye
180	no-recurrence-events	40-49	premeno	20-24	0-2	no	3	right	left_low	ye
181	no-recurrence-events	40-49	premeno	35-39	0-2	ye	3	right	left_up	ye
182	no-recurrence-events	40-49	premeno	35-39	0-2	ye	3	right	left_low	ye
183	no-recurrence-events	40-49	premeno	25-29	0-2	no	1	right	left_low	ye
184	no-recurrence-events	50-59	ge40	30-34	9-1	?	3	left	left_up	ye
185	no-recurrence-events	50-59	ge40	30-34	9-1	?	3	left	left_low	ye
186	no-recurrence-events	40-49	premeno	20-24	6-8	no	2	right	left_low	ye
187	no-recurrence-events	50-59	ge40	25-29	0-2	no	1	left	right_low	no
188	no-recurrence-events	60-69	ge40	15-19	0-2	no	2	left	left_up	ye

189	no-recurrence-events	40-49	premeno	10-14	0-2	no	2	right	left_up	no
190	no-recurrence-events	50-59	ge40	20-24	0-2	ye	2	right	left_up	no
191	no-recurrence-events	40-49	premeno	15-19	12-	no	3	right	right_low	ye
192	no-recurrence-events	40-49	premeno	25-29	0-2	no	2	left	left_up	ye
193	no-recurrence-events	50-59	ge40	30-34	6-8	ye	2	left	left_low	no
194	no-recurrence-events	30-39	premeno	10-14	0-2	no	2	left	right_low	no
195	no-recurrence-events	50-59	premeno	50-54	0-2	ye	2	right	left_up	ye
196	no-recurrence-events	50-59	ge40	35-39	0-2	no	2	left	left_up	no
197	no-recurrence-events	50-59	premeno	10-14	3-5	no	1	right	left_up	no
198	no-recurrence-events	40-49	premeno	10-14	0-2	no	2	left	left_low	ye
199	no-recurrence-events	50-59	ge40	15-19	0-2	ye	2	left	central	ye
200	no-recurrence-events	50-59	premeno	25-29	0-2	no	1	left	left_low	no
201	no-recurrence-events	60-69	ge40	25-29	0-2	no	3	right	left_low	no
202	recurrence-events	50-59	premeno	15-19	0-2	no	2	left	left_low	no
203	recurrence-events	40-49	premeno	40-44	0-2	no	1	left	left_low	no
204	recurrence-events	50-59	ge40	35-39	0-2	no	2	left	left_low	no
205	recurrence-events	50-59	premeno	25-29	0-2	no	2	left	right_up	no
206	recurrence-events	30-39	premeno	0-4	0-2	no	2	right	central	no
207	recurrence-events	50-59	ge40	30-34	0-2	no	3	left	?	no
208	recurrence-events	50-59	premeno	25-29	0-2	no	2	left	right_up	no
209	recurrence-events	50-59	premeno	30-34	0-2	no	3	left	right_up	no

210	recurrence-events	40-49	premeno	35-39	0-2	no		1	right	left_up	no
211	recurrence-events	40-49	premeno	20-24	0-2	no		2	left	left_low	no
212	recurrence-events	50-59	ge40	20-24	0-2	no		2	right	central	no
213	recurrence-events	40-49	premeno	30-34	0-2	no		3	right	right_up	no
214	recurrence-events	50-59	premeno	25-29	0-2	no		1	right	left_up	no
215	recurrence-events	60-69	ge40	40-44	0-2	no		2	right	left_low	no
216	recurrence-events	40-49	ge40	20-24	0-2	no		2	right	left_up	no
217	recurrence-events	50-59	ge40	20-24	0-2	no		2	left	left_up	no
218	recurrence-events	40-49	premeno	15-19	0-2	no		2	left	left_up	no
219	recurrence-events	60-69	ge40	30-34	0-2	no		3	right	central	no
220	recurrence-events	30-39	premeno	15-19	0-2	no		1	right	left_low	no
221	recurrence-events	40-49	premeno	25-29	0-2	no		3	left	right_up	no
222	recurrence-events	30-39	premeno	30-34	0-2	no		1	right	left_up	no
223	recurrence-events	60-69	ge40	25-29	0-2	no		3	left	right_low	ye
224	recurrence-events	60-69	ge40	20-24	0-2	no		3	right	left_low	no
225	recurrence-events	30-39	premeno	25-29	3-5	ye		3	left	left_low	ye
226	recurrence-events	40-49	ge40	20-24	3-5	no		3	right	left_low	ye
227	recurrence-events	40-49	premeno	30-34	15-	ye		3	left	left_low	no
228	recurrence-events	50-59	premeno	30-34	0-2	no		3	right	left_up	ye
229	recurrence-events	60-69	ge40	40-44	3-5	ye		3	right	left_low	no
230	recurrence-events	60-69	ge40	45-49	0-2	no		1	right	right_up	ye
231	recurrence-events	50-59	premeno	50-54	9-1	ye		2	right	left_up	no
232	recurrence-events	40-49	premeno	30-34	3-5	no		2	right	left_up	no
233	recurrence-events	30-39	premeno	30-34	3-5	no		3	right	left_up	ye
234	recurrence-events	70-79	ge40	15-19	9-1	?		1	left	left_low	ye
235	recurrence-	60-69	ge40	30-34	0-2	no		3	right	left_up	ye

	events									
236	recurrence-events	50-59	premeno	25-29	3-5	ye	3	left	left_low	ye
237	recurrence-events	40-49	premeno	25-29	0-2	no	2	right	left_low	no
238	recurrence-events	40-49	premeno	25-29	0-2	no	2	right	left_low	no
239	recurrence-events	30-39	premeno	35-39	0-2	no	3	left	left_low	no
240	recurrence-events	40-49	premeno	20-24	3-5	ye	2	right	right_up	ye
241	recurrence-events	60-69	ge40	20-24	3-5	no	2	left	left_low	ye
242	recurrence-events	40-49	premeno	15-19	15-	ye	3	left	left_low	no
243	recurrence-events	50-59	ge40	25-29	6-8	no	3	left	left_low	ye
244	recurrence-events	50-59	ge40	20-24	3-5	ye	3	right	right_up	no
245	recurrence-events	40-49	premeno	30-34	12-	ye	3	left	left_up	ye
246	recurrence-events	30-39	premeno	30-34	9-1	no	2	right	left_up	ye
247	recurrence-events	30-39	premeno	15-19	6-8	ye	3	left	left_low	ye
248	recurrence-events	50-59	ge40	30-34	9-1	ye	3	left	right_low	ye
249	recurrence-events	60-69	ge40	35-39	6-8	ye	3	left	left_low	no
250	recurrence-events	30-39	premeno	20-24	3-5	ye	2	left	left_low	no
251	recurrence-events	40-49	premeno	25-29	0-2	no	3	left	left_up	no
252	recurrence-events	40-49	premeno	50-54	0-2	no	2	right	left_low	ye
253	recurrence-events	30-39	premeno	40-44	0-2	no	1	left	left_up	no
254	recurrence-events	60-69	ge40	50-54	0-2	no	3	right	left_up	no
255	recurrence-events	40-49	premeno	30-34	0-2	ye	3	right	right_up	no
256	recurrence-events	40-49	premeno	30-34	6-8	ye	3	right	left_up	no
257	recurrence-events	40-49	premeno	30-34	0-2	no	1	left	left_low	ye
258	recurrence-events	40-49	premeno	20-24	3-5	ye	2	left	left_low	ye
259	recurrence-events	50-59	ge40	30-34	6-8	ye	2	left	right_low	ye
260	recurrence-events	50-59	ge40	30-34	3-5	no	3	right	left_up	no

261	recurrence-events	60-69	ge40	25-29	3-5	no		2	right	right_up	no
262	recurrence-events	40-49	ge40	25-29	12-	ye		3	left	right_low	ye
263	recurrence-events	60-69	ge40	25-29	0-2	no		3	left	left_up	no
264	recurrence-events	50-59	lt40	20-24	0-2	?		1	left	left_up	no
265	recurrence-events	50-59	lt40	20-24	0-2	?		1	left	left_low	no
266	recurrence-events	30-39	premeno	35-39	9-1	ye		3	left	left_low	no
267	recurrence-events	40-49	premeno	30-34	3-5	ye		2	left	right_up	no
268	recurrence-events	60-69	ge40	20-24	24-	ye		3	left	left_low	ye
269	recurrence-events	30-39	premeno	35-39	0-2	no		3	left	left_low	no
270	recurrence-events	40-49	premeno	25-29	0-2	no		2	left	left_low	ye
271	recurrence-events	50-59	ge40	30-34	6-8	ye		3	left	right_low	no
272	recurrence-events	50-59	premeno	25-29	0-2	no		3	right	left_low	ye
273	recurrence-events	40-49	premeno	15-19	0-2	ye		3	right	left_up	no
274	recurrence-events	60-69	ge40	30-34	0-2	ye		2	right	right_up	ye
275	recurrence-events	60-69	ge40	30-34	3-5	ye		2	left	central	ye
276	recurrence-events	40-49	premeno	25-29	9-1	ye		3	right	left_up	no
277	recurrence-events	30-39	premeno	25-29	6-8	ye		3	left	right_low	ye
278	recurrence-events	60-69	ge40	10-14	6-8	ye		3	left	left_up	ye
279	recurrence-events	50-59	premeno	35-39	15-	ye		3	right	right_up	no
280	recurrence-events	50-59	ge40	40-44	6-8	ye		3	left	left_low	ye
281	recurrence-events	50-59	ge40	40-44	6-8	ye		3	left	left_low	ye
282	recurrence-events	30-39	premeno	30-34	0-2	no		2	left	left_up	no
283	recurrence-events	30-39	premeno	20-24	0-2	no		3	left	left_up	ye
284	recurrence-events	60-69	ge40	20-24	0-2	no		1	right	left_up	no
285	recurrence-events	40-49	ge40	30-34	3-5	no		3	left	left_low	no
286	recurrence-	50-59	ge40	30-34	3-5	no		3	left	left_low	no

	events										

The SAS System

The HPSPLIT Procedure

Performance Information	
Execution Mode	Single-Machine
Number of Threads	2

Data Access Information			
Data	**Engine**	**Role**	**Path**
WORK.BREAST_CANCER	V9	Input	On Client

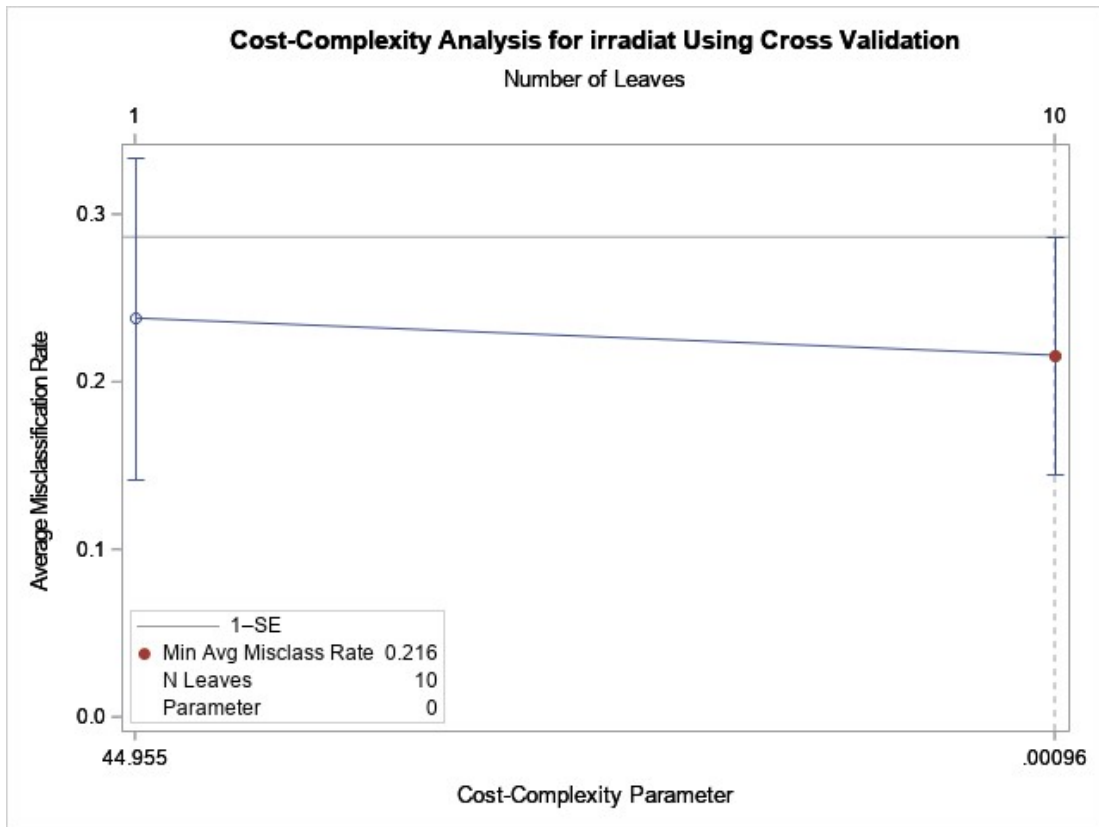| Model Information	
Split Criterion Used	Entropy
Pruning Method	Cost-Complexity
Subtree Evaluation Criterion	Cost-Complexity
Number of Branches	2
Maximum Tree Depth Requested	10
Maximum Tree Depth Achieved	6
Tree Depth	5
Number of Leaves Before Pruning	25
Number of Leaves After Pruning	10
Model Event Level	no

Number of Observations Read	286
Number of Observations Used	286

The SAS System

The HPSPLIT Procedure

Cost-Complexity Analysis for irradiat Using Cross Validation

Legend:
- 1–SE
- ● Min Avg Misclass Rate 0.216
- N Leaves 10
- Parameter 0

The SAS System

The HPSPLIT Procedure

Classification Tree for irradiat

irradiat ☐ no ☐ ye

Subtree Starting at Node=0
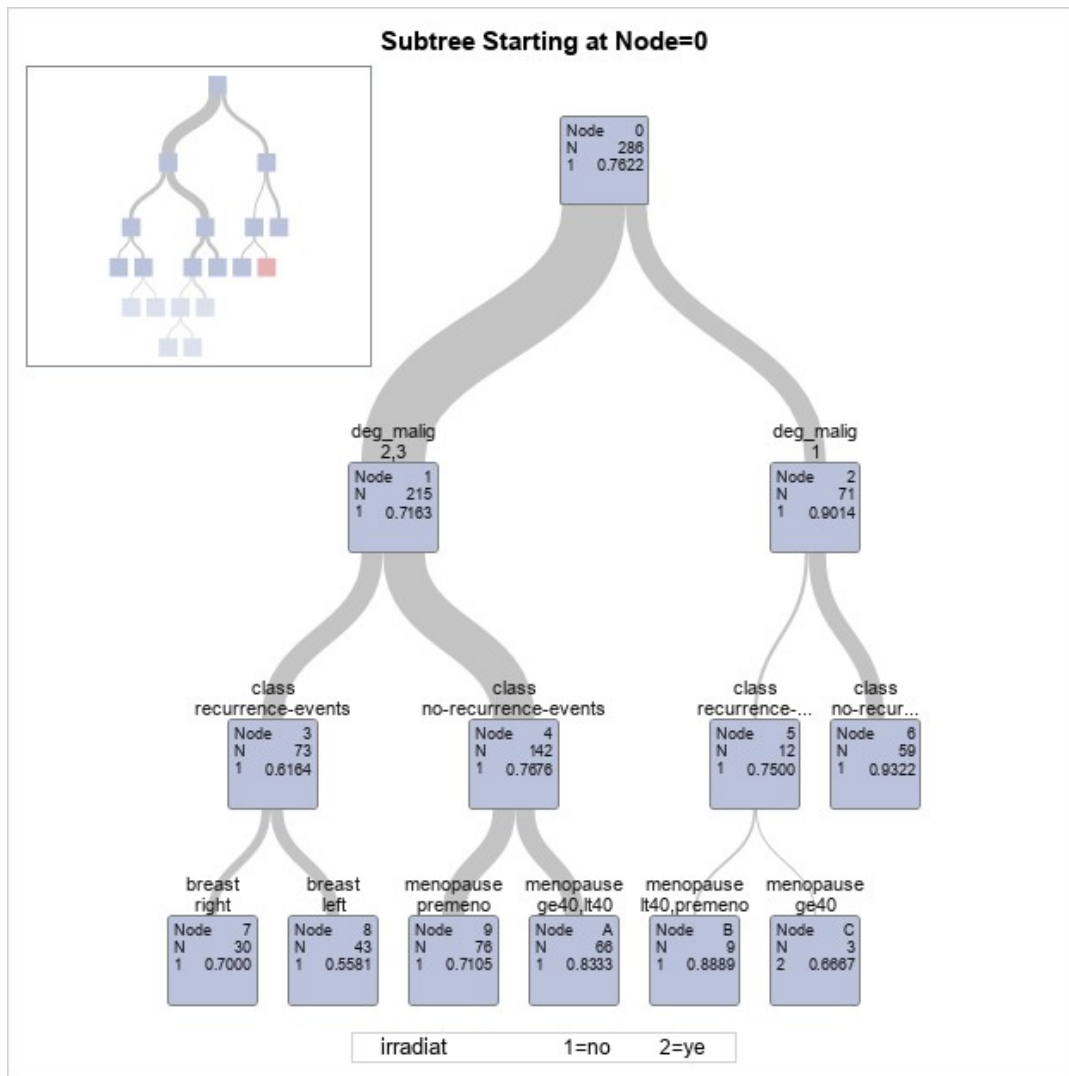
The SAS System

The HPSPLIT Procedure

Model-Based Confusion Matrix

Actual	Predicted no	Predicted ye	Error Rate
no	208	10	0.0459
ye	48	20	0.7059

Model-Based Fit Statistics for Selected Tree

N Leaves	ASE	Mis-class	Sensitivity	Specificity	Entropy	Gini	RSS	AUC
10	0.1502	0.2028	0.9541	0.2941	0.6722	0.3004	85.9238	0.7416

ROC Curve for irradiat
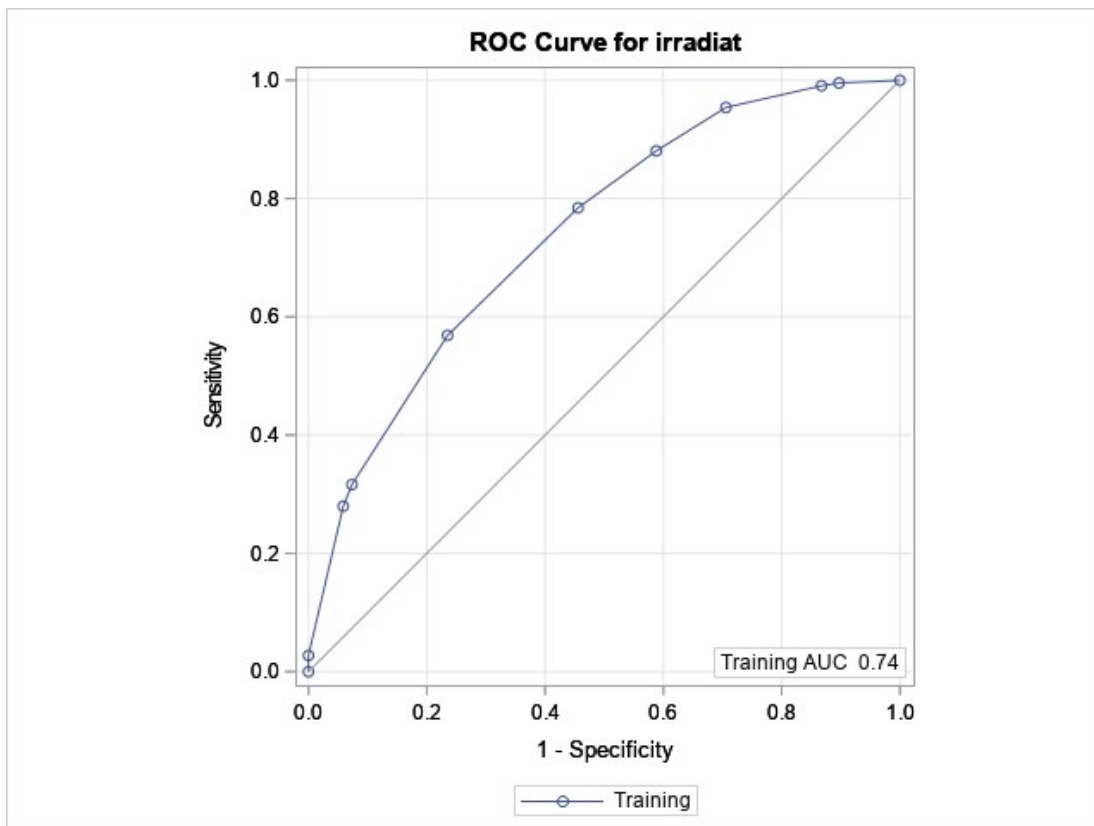
Variable Importance

Variable	Training Relative	Training Importance	Count
breast	1.0000	2.4416	2
deg_malig	0.9322	2.2759	2
menopause	0.7914	1.9323	3
class	0.6933	1.6928	2

The SAS System

The HPSPLIT Procedure

Performance Information	
Execution Mode	Single-Machine
Number of Threads	2

Data Access Information			
Data	Engine	Role	Path
WORK.BREAST_CANCER	V9	Input	On Client

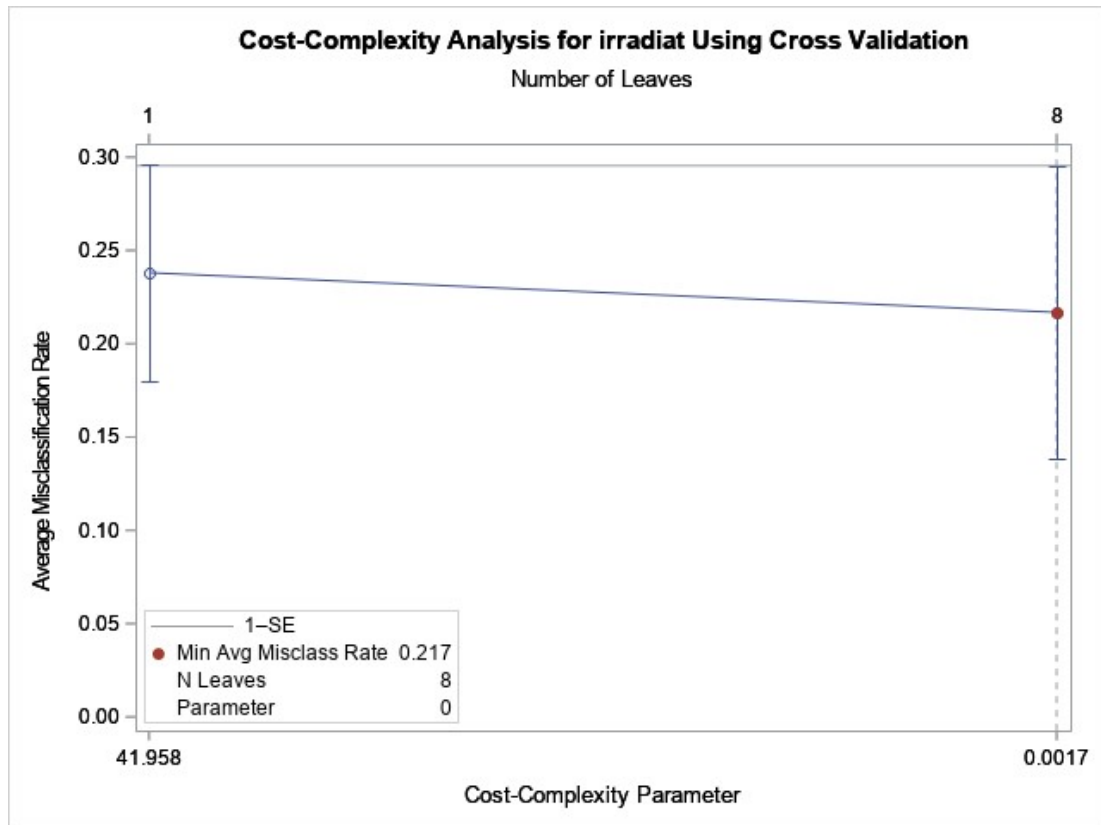| Model Information	
Split Criterion Used	Gini
Pruning Method	Cost-Complexity
Subtree Evaluation Criterion	Cost-Complexity
Number of Branches	2
Maximum Tree Depth Requested	10
Maximum Tree Depth Achieved	6
Tree Depth	5
Number of Leaves Before Pruning	26
Number of Leaves After Pruning	8
Model Event Level	no

Number of Observations Read	286
Number of Observations Used	286

The SAS System

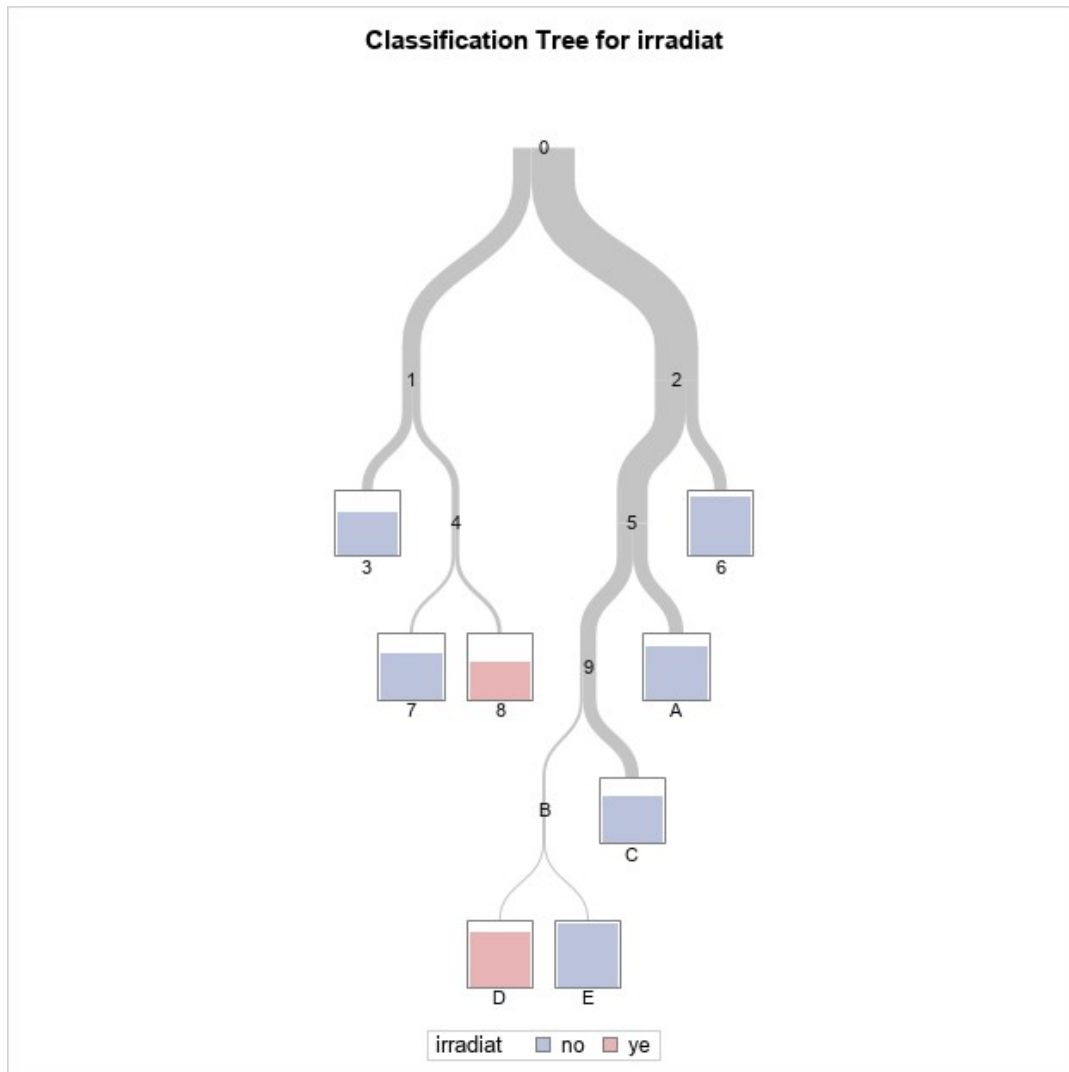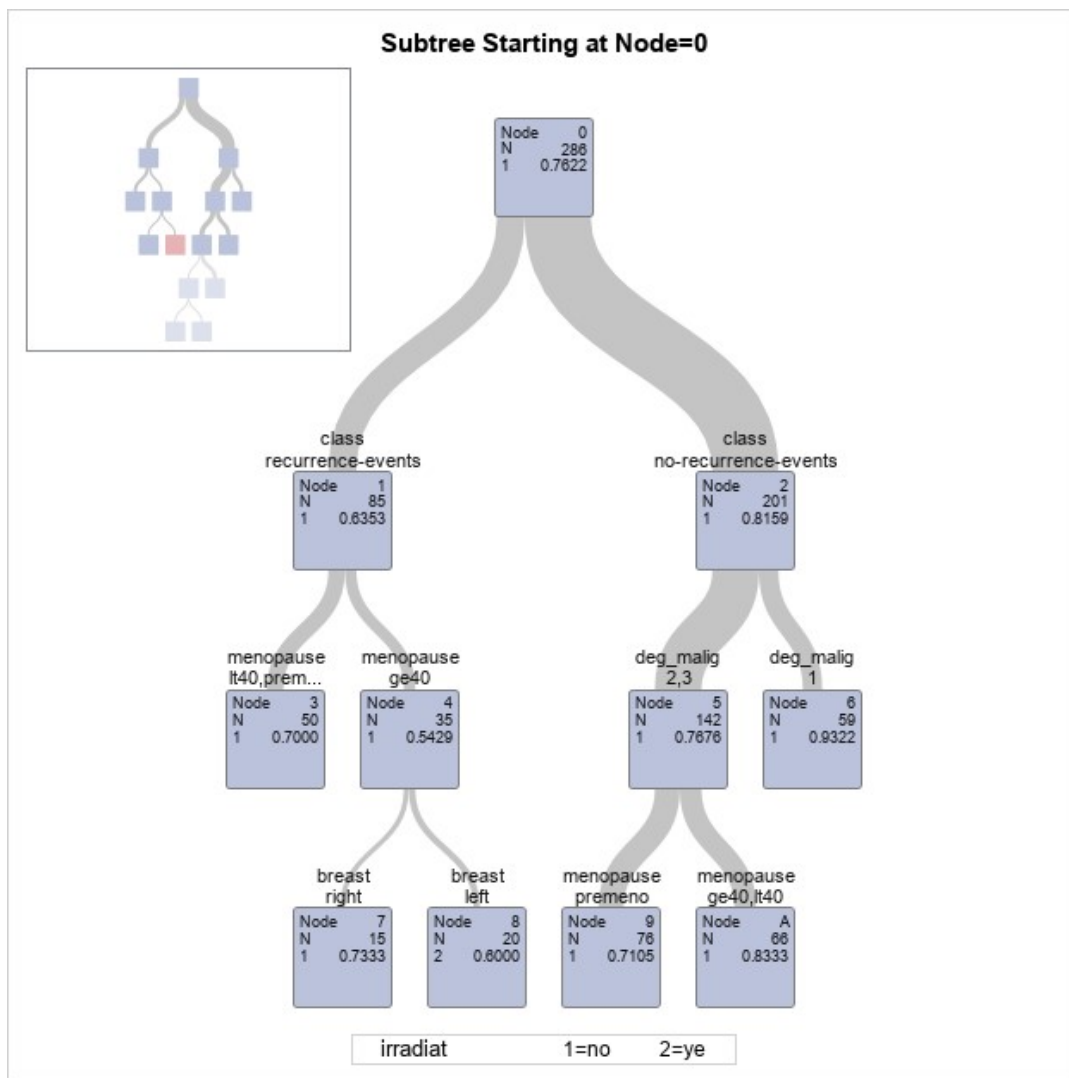## The HPSPLIT Procedure

Cost-Complexity Analysis for irradiat Using Cross Validation

The SAS System

The HPSPLIT Procedure

Classification Tree for irradiat

Subtree Starting at Node=0

Node		0
N		286
1		0.7622

class
recurrence-events

Node		1
N		85
1		0.6353

class
no-recurrence-events

Node		2
N		201
1		0.8159

menopause
lt40,prem...

Node		3
N		50
1		0.7000

menopause
ge40

Node		4
N		35
1		0.5429

deg_malig
2,3

Node		5
N		142
1		0.7676

deg_malig
1

Node		6
N		59
1		0.9322

breast
right

Node		7
N		15
1		0.7333

breast
left

Node		8
N		20
2		0.6000

menopause
premeno

Node		9
N		76
1		0.7105

menopause
ge40,lt40

Node		A
N		66
1		0.8333

irradiat   1=no   2=ye

The SAS System

The HPSPLIT Procedure

Model-Based Confusion Matrix

Actual	Predicted no	ye	Error Rate
no	209	9	0.0413
ye	49	19	0.7206

Model-Based Fit Statistics for Selected Tree

N Leaves	ASE	Mis-class	Sensitivity	Specificity	Entropy	Gini	RSS	AUC
8	0.1517	0.2028	0.9587	0.2794	0.6779	0.3033	86.7496	0.7302

ROC Curve for irradiat

Variable Importance

Variable	Relative	Training Importance	Count
breast	1.0000	2.6748	2
class	0.7381	1.9743	1
deg_malig	0.7268	1.9442	2
menopause	0.5395	1.4430	2