



Códigos em SAS Apresentados no Apêndice C

Capítulo 4 - Modelos de Regressão Paramétricos

- Apêndice C1 - Modelo Gama Generalizado (Tabela 4.10)

```

data desmame;
input id tempo cens V3 V2 V7 V11 V4 V1 V6 V10 V8 V9 V5;
V13=V1*V3;
V14=V1*V4;
V16=V1*V6;
V34=V3*V4;
V36=V3*V6;
V38=V3*V8;
V46=V4*V6;
V48=V4*V8;
V68=V6*V8;
cards;
1 6 1 0 0 0 1 0 0 0 1 1 1 0
5 8 1 0 0 0 1 1 1 1 1 1 1 1
...
153 9 0 1 1 0 1 0 0 1 1 1 0 0
;
proc lifereg;
model tempo*cens(0)= /distribution=gamma;
run;
proc lifereg;
model tempo*cens(0)=V1 /distribution=gamma;
run;
proc lifereg;
model tempo*cens(0)=V2 /distribution=gamma;
run;
proc lifereg;
model tempo*cens(0)= V1 V2 V3 V4 V6 V8 V9 /distribution=gamma;
run;
proc lifereg;
model tempo*cens(0)= V2 V3 V4 V6 V8 V9 /distribution=gamma;
run;
proc lifereg;
model tempo*cens(0))= V3 V4 V6 V8/distribution=gamma;
run;
proc lifereg;
model tempo*cens(0)= V3 V4 V6 V8 V34/distribution=gamma;
run;

```

Capítulo 8 - Censura Intervalar e Dados Grupados

- Programa SAS para obter o arquivo dadmang.txt (pg. 332)

```

=====
an = ano codificado (73 = 1; 74 = 2; ...; 92 = 13)
freq = frequencia (uma observacao por linha, logo freq = 1)
=====

options nonumber linesize=90 ps=500;
data mang;
input obs ano $ ti cens li ui copa $ cavalo $ bloco $ an $ freq ;
datalines;
1 85 14 1 12 14 1 1 3 6 1
2 85 14 1 12 14 1 1 4 6 1
3 88 17 1 16 17 1 1 5 9 1
4 90 19 1 18 19 1 1 1 11 1
5 92 21 0 21 . 1 1 2 13 1
6 85 14 1 12 14 1 2 3 6 1
7 85 14 1 12 14 1 2 4 6 1
8 85 14 1 12 14 1 2 5 6 1
9 88 17 1 16 17 1 2 1 9 1
10 88 17 1 16 17 1 2 2 9 1
11 88 17 1 16 17 1 3 5 9 1
12 89 18 1 17 18 1 3 1 10 1
13 90 19 1 18 19 1 3 4 11 1
14 92 21 0 21 . 1 3 3 13 1
15 92 21 0 21 . 1 3 2 13 1
16 81 10 1 4 10 1 4 4 4 1
17 88 17 1 16 17 1 4 1 9 1
18 88 17 1 16 17 1 4 5 9 1
19 92 21 0 21 . 1 4 2 13 1
20 92 21 0 21 . 1 4 3 13 1
21 73 2 1 0 2 1 5 1 1 1
22 85 14 1 12 14 1 5 3 6 1
23 88 17 1 16 17 1 5 5 9 1
24 90 19 1 18 19 1 5 4 11 1
25 92 21 0 21 . 1 5 2 13 1
26 81 10 1 4 10 1 6 4 4 1
27 87 16 1 15 16 1 6 5 8 1
28 89 18 1 17 18 1 6 1 10 1
29 90 19 1 18 19 1 6 2 11 1
30 90 19 1 18 19 1 6 3 11 1
31 73 2 1 0 2 1 7 5 1 1
32 87 16 1 15 16 1 7 4 8 1
33 90 19 1 18 19 1 7 3 11 1
34 92 21 0 21 . 1 7 2 13 1
35 92 21 0 21 . 1 7 1 13 1
36 89 18 1 17 18 2 1 5 10 1
37 90 19 1 18 19 2 1 4 11 1
38 92 21 0 21 . 2 1 3 13 1
39 92 21 0 21 . 2 1 2 13 1
40 92 21 0 21 . 2 1 1 13 1

```

41	87	16	1	15	16	2	2	4	8	1
42	88	17	1	16	17	2	2	1	9	1
43	90	19	1	18	19	2	2	5	11	1
44	92	21	0	21	.	2	2	2	13	1
45	92	21	0	21	.	2	2	3	13	1
46	92	21	0	21	.	2	3	1	13	1
47	92	21	0	21	.	2	3	2	13	1
48	92	21	0	21	.	2	3	3	13	1
49	92	21	0	21	.	2	3	4	13	1
50	92	21	0	21	.	2	3	5	13	1
51	81	10	1	4	10	2	4	3	4	1
52	88	17	1	16	17	2	4	5	9	1
53	89	18	1	17	18	2	4	1	10	1
54	90	19	1	18	19	2	4	2	11	1
55	92	21	1	19	21	2	4	4	12	1
56	73	2	1	0	2	2	5	1	1	1
57	74	3	1	2	3	2	5	2	2	1
58	74	3	1	2	3	2	5	3	2	1
59	88	17	1	16	17	2	5	4	9	1
60	92	21	0	21	.	2	5	5	13	1
61	83	12	1	10	12	2	6	5	5	1
62	90	19	1	18	19	2	6	1	11	1
63	90	19	1	18	19	2	6	4	11	1
64	92	21	0	21	.	2	6	2	13	1
65	92	21	0	21	.	2	6	3	13	1
66	88	17	1	16	17	2	7	2	9	1
67	88	17	1	16	17	2	7	5	9	1
68	90	19	1	18	19	2	7	3	11	1
69	90	19	1	18	19	2	7	4	11	1
70	92	21	0	21	.	2	7	1	13	1
71	73	2	1	0	2	3	1	5	1	1
72	89	18	1	17	18	3	1	4	10	1
73	92	21	0	21	.	3	1	3	13	1
74	92	21	0	21	.	3	1	2	13	1
75	92	21	0	21	.	3	1	1	13	1
76	74	3	1	2	3	3	2	4	2	1
77	74	3	1	2	3	3	2	5	2	1
78	88	17	1	16	17	3	2	2	9	1
79	92	21	0	21	.	3	2	1	13	1
80	92	21	0	21	.	3	2	3	13	1
81	73	2	1	0	2	3	3	3	1	1
82	73	2	1	0	2	3	3	5	1	1
83	88	17	1	16	17	3	3	4	9	1
84	92	21	0	21	.	3	3	2	13	1
85	92	21	0	21	.	3	3	1	13	1
86	74	3	1	2	3	3	4	5	2	1
87	75	4	1	3	4	3	4	3	3	1
88	87	16	1	15	16	3	4	4	8	1
89	90	19	1	18	19	3	4	1	11	1
90	92	21	0	21	.	3	4	2	13	1

91	74	3	1	2	3	3	5	2	2	1
92	74	3	1	2	3	3	5	4	2	1
93	87	16	1	15	16	3	5	5	8	1
94	90	19	1	18	19	3	5	3	11	1
95	92	21	0	21	.	3	5	1	13	1
96	73	2	1	0	2	3	6	1	1	1
97	86	15	1	14	15	3	6	3	7	1
98	90	19	1	18	19	3	6	4	11	1
99	90	19	1	18	19	3	6	5	11	1
100	92	21	0	21	.	3	6	2	13	1
101	73	2	1	0	2	3	7	2	1	1
102	81	10	1	4	10	3	7	5	4	1
103	90	19	1	18	19	3	7	1	11	1
104	90	19	1	18	19	3	7	4	11	1
105	92	21	1	19	21	3	7	3	12	1
106	88	17	1	16	17	4	1	5	9	1
107	90	19	1	18	19	4	1	3	11	1
108	92	21	0	21	.	4	1	4	13	1
109	92	21	0	21	.	4	1	2	13	1
110	92	21	0	21	.	4	1	1	13	1
111	73	2	1	0	2	4	2	2	1	1
112	86	15	1	14	15	4	2	1	7	1
113	86	15	1	14	15	4	2	4	7	1
114	92	21	0	21	.	4	2	3	13	1
115	92	21	0	21	.	4	2	5	13	1
116	86	15	1	14	15	4	3	1	7	1
117	88	17	1	16	17	4	3	3	9	1
118	88	17	1	16	17	4	3	4	9	1
119	90	19	1	18	19	4	3	2	11	1
120	92	21	1	19	21	4	3	5	12	1
121	81	10	1	4	10	4	4	2	4	1
122	85	14	1	12	14	4	4	5	6	1
123	87	16	1	15	16	4	4	4	8	1
124	92	21	0	21	.	4	4	1	13	1
125	92	21	0	21	.	4	4	3	13	1
126	73	2	1	0	2	4	5	2	1	1
127	81	10	1	4	10	4	5	4	4	1
128	85	14	1	12	14	4	5	5	6	1
129	92	21	0	21	.	4	5	1	13	1
130	92	21	0	21	.	4	5	3	13	1
131	87	16	1	15	16	4	6	2	8	1
132	90	19	1	18	19	4	6	4	11	1
133	90	19	1	18	19	4	6	5	11	1
134	92	21	1	19	21	4	6	3	12	1
135	92	21	1	19	21	4	6	1	12	1
136	87	16	1	15	16	4	7	4	8	1
137	87	16	1	15	16	4	7	5	8	1
138	89	18	1	17	18	4	7	3	10	1
139	92	21	0	21	.	4	7	1	13	1
140	92	21	0	21	.	4	7	2	13	1

141	73	2	1	0	2	5	1	5	1	1
142	85	14	1	12	14	5	1	1	6	1
143	89	18	1	17	18	5	1	2	10	1
144	90	19	1	18	19	5	1	3	11	1
145	92	21	0	21	.	5	1	4	13	1
146	85	14	1	12	14	5	2	2	6	1
147	85	14	1	12	14	5	2	4	6	1
148	89	18	1	17	18	5	2	3	10	1
149	92	21	0	21	.	5	2	1	13	1
150	92	21	0	21	.	5	2	5	13	1
151	86	15	1	14	15	5	3	1	7	1
152	86	15	1	14	15	5	3	2	7	1
153	88	17	1	16	17	5	3	4	9	1
154	92	21	0	21	.	5	3	3	13	1
155	92	21	0	21	.	5	3	5	13	1
156	81	10	1	4	10	5	4	5	4	1
157	85	14	1	12	14	5	4	2	6	1
158	86	15	1	14	15	5	4	3	7	1
159	87	16	1	15	16	5	4	4	8	1
160	92	21	0	21	.	5	4	1	13	1
161	73	2	1	0	2	5	5	2	1	1
162	86	15	1	14	15	5	5	1	7	1
163	89	18	1	17	18	5	5	5	10	1
164	92	21	0	21	.	5	5	3	13	1
165	92	21	0	21	.	5	5	4	13	1
166	86	15	1	14	15	5	6	1	7	1
167	88	17	1	16	17	5	6	4	9	1
168	92	21	1	19	21	5	6	5	12	1
169	92	21	0	21	.	5	6	2	13	1
170	92	21	0	21	.	5	6	3	13	1
171	74	3	1	2	3	5	7	2	2	1
172	88	17	1	16	17	5	7	3	9	1
173	92	21	0	21	.	5	7	1	13	1
174	92	21	0	21	.	5	7	4	13	1
175	92	21	0	21	.	5	7	5	13	1
176	85	14	1	12	14	6	1	2	6	1
177	86	15	1	14	15	6	1	1	7	1
178	87	16	1	15	16	6	1	4	8	1
179	88	17	1	16	17	6	1	5	9	1
180	89	18	1	17	18	6	1	3	10	1
181	85	14	1	12	14	6	2	1	6	1
182	85	14	1	12	14	6	2	3	6	1
183	85	14	1	12	14	6	2	5	6	1
184	86	15	1	14	15	6	2	2	7	1
185	90	19	1	18	19	6	2	4	11	1
186	85	14	1	12	14	6	3	4	6	1
187	87	16	1	15	16	6	3	5	8	1
188	88	17	1	16	17	6	3	3	9	1
189	88	17	1	16	17	6	3	2	9	1
190	88	17	1	16	17	6	3	1	9	1

```

191 85 14    1 12 14    6      4      1 6 1
192 86 15    1 14 15    6      4      3 7 1
193 87 16    1 15 16    6      4      2 8 1
194 88 17    1 16 17    6      4      4 9 1
195 88 17    1 16 17    6      4      5 9 1
196 83 12    1 10 12    6      5      4 5 1
197 85 14    1 12 14    6      5      1 6 1
198 85 14    1 12 14    6      5      2 6 1
199 85 14    1 12 14    6      5      3 6 1
200 85 14    1 12 14    6      5      5 6 1
201 85 14    1 12 14    6      6      2 6 1
202 87 16    1 15 16    6      6      4 8 1
203 87 16    1 15 16    6      6      1 8 1
204 88 17    1 16 17    6      6      3 9 1
205 90 19    1 18 19    6      6      5 11 1
206 81 10    1  4 10    6      7      4 4 1
207 86 15    1 14 15    6      7      3 7 1
208 87 16    1 15 16    6      7      5 8 1
209 88 17    1 16 17    6      7      1 9 1
210 90 19    1 18 19    6      7      2 11 1
;
run;
/*proc print data=mang; */
/* run;*/

data dadmang;
    retain interv1-interv12 0;
    array dd[12] interv1-interv12;
    set mang;
    if an = 13 then do interv=1 to 12;
        y=0; dd[interv]=1;
        output;
        dd[interv]=0;
    end;
    else do interv=1 to an;
        if interv=an then y=1;
        else y=0;
        dd[interv]=1;
        output;
        dd[interv]=0;
    end;
/*proc print data=dadmang;*/
/*run;*/

```

- Ajuste dos Modelos de Cox e Logístico no SAS

```
/*Modelo de Cox */
proc logistic data=intervs descending outest=est1;
  class bloco copa cavalo /param=reference ref=first;
  model y= interv1-interv12 bloco copa cavalo copa*cavalo/ noint link=cl
oglog
                                                    technique=new
ton;
  freq freq;
  run;
proc logistic data=intervs descending outest=est1;
  class bloco copa cavalo /param=reference ref=first;
  model y= interv1-interv12 bloco copa cavalo /noint link=cloglog
                                                    technique=newton;

  freq freq;
  run;
proc logistic data=intervs descending outest=est1;
  class bloco copa / param=reference ref=first;
  model y= interv1-interv12 bloco copa /noint link=cloglog
                                                    technique=newton;

  freq freq;
  run;
/*Modelo logistico*/
proc logistic data=intervs descending outest=est1;
  class bloco copa / param=reference ref=first;
  model y= interv1-interv12 bloco copa /noint link=logit
                                                    technique=newton;

  freq freq;
  run;
```