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R version 2.10.1 (2009-12-14) > library(survival)
> #AML data described in Miller p.49; see lecture 4 or "aml" in survival package for description
> #aml data in the survival package as leukemia which I renamed aml for typing
> data(aml) Warning message: In data(aml) : data set 'aml' not found
> data(leukemia) > leukemia
  time status      x      time status      x
1     9      1 Maintained 12     5      1 Nonmaintained
2    13      1 Maintained 13     5      1 Nonmaintained
3    13      0 Maintained 14     8      1 Nonmaintained
4    18      1 Maintained 15     8      1 Nonmaintained
5    23      1 Maintained 16    12      1 Nonmaintained
6    28      0 Maintained 17    16      0 Nonmaintained
7    31      1 Maintained 18    23      1 Nonmaintained
8    34      1 Maintained 19    27      1 Nonmaintained
9    45      0 Maintained 20    30      1 Nonmaintained
10   48      1 Maintained 21    33      1 Nonmaintained
11  161      0 Maintained 22    43      1 Nonmaintained
      23    45      1 Nonmaintained

> aml = leukemia > attach(aml)
> ?survfit > #fit a Kaplan-Meier and plot it (see plot)
> fit = survfit(Surv(time, status) ~ x, data = aml)
> plot(fit, lty = 2:3)
> legend(100, .8, c("Maintained", "Nonmaintained"), lty = 2:3)
> summary(fit)
Call: survfit(formula = Surv(time, status) ~ x, data = aml)
      x=Maintained
  time n.risk n.event survival std.err lower 95% CI upper 95% CI
    9     11      1  0.909  0.0867  0.7541  1.000
   13     10      1  0.818  0.1163  0.6192  1.000
   18      8      1  0.716  0.1397  0.4884  1.000
   23      7      1  0.614  0.1526  0.3769  0.999
   31      5      1  0.491  0.1642  0.2549  0.946
   34      4      1  0.368  0.1627  0.1549  0.875
   48      2      1  0.184  0.1535  0.0359  0.944
      x=Nonmaintained
  time n.risk n.event survival std.err lower 95% CI upper 95% CI
    5     12      2  0.8333  0.1076  0.6470  1.000
    8     10      2  0.6667  0.1361  0.4468  0.995
   12      8      1  0.5833  0.1423  0.3616  0.941
   23      6      1  0.4861  0.1481  0.2675  0.883
   27      5      1  0.3889  0.1470  0.1854  0.816
   30      4      1  0.2917  0.1387  0.1148  0.741
   33      3      1  0.1944  0.1219  0.0569  0.664
   43      2      1  0.0972  0.0919  0.0153  0.620
   45      1      1  0.0000      NaN      NA      NA

> survfit(Surv(time, status) ~ x, data = aml) #another quick comparison
Call: survfit(formula = Surv(time, status) ~ x, data = aml)
      records n.max n.start events median 0.95LCL 0.95UCL
x=Maintained      11  11      11      7      31      18      NA
x=Nonmaintained    12  12      12     11     23      8      NA

> survdiff(Surv(time, status) ~ x, data = aml)
Call: survdiff(formula = Surv(time, status) ~ x, data = aml)
      N Observed Expected (O-E)^2/E (O-E)^2/V
x=Maintained 11      7     10.69     1.27     3.40
x=Nonmaintained 12     11     7.31     1.86     3.40
Chisq= 3.4 on 1 degrees of freedom, p= 0.0653

> coxaml = coxph(Surv(time, status) ~ x, data = aml) #or do cox regression with treatment as predictor
> summary(coxaml)
Call: coxph(formula = Surv(time, status) ~ x, data = aml)
      n= 23
      coef exp(coef) se(coef)      z Pr(>|z|)
xNonmaintained 0.9155      2.4981  0.5119 1.788  0.0737 .
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Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

      exp(coef) exp(-coef) lower .95 upper .95
xNonmaintained 2.498      0.4003  0.9159  6.813

Rsquare= 0.137 (max possible= 0.976 )
Likelihood ratio test= 3.38 on 1 df, p=0.06581
Wald test = 3.2 on 1 df, p=0.07371
Score (logrank) test = 3.42 on 1 df, p=0.06454

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