Problem 2.

(a)

j	t_j	n_j	d_j	λ_j	$\Pi(1-\lambda_j)$	$S(t)$
0	0	22	0			
1	26	22	1	1/22	0.954	
2	35	21	1	1/21	0.909	
3	122	18	1	1/18	0.859	
4	450	15	1	1/15	0.801	
5	460	14	1	1/14	0.744	
6	708	6	1	1/6	0.620	

(b) The survival function drops below 0,9 for the first time at $t = 122$. So, 90% of patients are still undergoing treatment at this stage.

(c) The λ_j values are approximations of the hazard at time t_j.

We can see that the hazard is increasing over time

(d) We could construct separate Kaplan Meier curves for each clinic and compare. However, the sample sizes are small.

An alternative would be Cox Regression where we include clinic as a covariate.

This assumes that $\lambda(t; x_i) = \lambda_0(t) e^{\beta x_i}$.

If β is close to zero, the clinics are equivalent