Hw4

1. SOMATIC TYPE: In *berkel*0.*csv* you can find part of the data of a study of children born in 1928 in Berkeley. The explanatory variables are weight and height at 2, 9 and 18 years old, the circumference of the leg and the arm strength at 9 and 18 years, and wether the kid is a boy or a girl. The response variable is *soma*, measuring the somatic type when the kids are 18 years old on a scale from 1 to 7, with 1 being leanest and 7 being fattest.

   Build a model for *soma* starting from all the explanatory variables available except the four variables measured at 18, and interpret it.

   How do you handle the fact that there are many plausible alternative models, and that the explanatory variables are all related between them?

2. BIRTH WEIGHT: Using the data in $BirthWeight0.csv$ build a model for the weight of a newborn baby, *bwt*, using as explanatory variables the age of the mother, *age*, her weight just before becoming pregnant, *lwt*, a variable indicating her smoking status during pregnancy, *smoke*, a variable indicating wether she has hypertension or not, *ht*, a variable indicating wether she had uterine irritability or not, *ui*, the number of the visits to her physician in the first semester, ftv, the number of times the mother underwent premature labor, *ptl*, and *race*, which is 1 if the mother is white, it is 2 if it is black and it is 3 otherwise.