Exercise 3: Non-parametric bootstrap

1. We're looking at the diversity of animal species in a particular forest. We've recorded the following: 13 animals in Species a, 40 animals in Species b, 9 animals in Species c, 20 animals in Species d, and 18 animals in Species f. Compute the Simpson's diversity index d and provide also a bootstrap estimate of d, its standard error and a 95% confidence interval.

   `https://www.youtube.com/watch?v=n3lm4jwiao0&t=157s`

2. We have a sample of 6 cars in a second-hand market, of the same model and year, with the following prices and total km:

Km	Price
37388	14636
44758	14122
45833	14016
30862	15590
31705	15568
34010	14718

   Calculate 95% bootstrap CI (three methods) of the second-hand price for a car (same model and year) with 50000 km.

You have to work in couples (groups of two persons), different from the two previous homeworks. Send the solutions of the exercise in a pdf file to ppuig@mat.uab.cat. Deadline: January 30 at 23:59h