University of Toronto
Operations Research Group

Mouse Memory

Background

Dr. Morris studies the effect of drugs on the memory of mice. She has designed a new experiment and wants to test three different drugs on the mice. She has 40 mice, each with its own age in days, which are provided in MOUSEAGE.csv. Dr. Morris knows that age can affect the way that each mouse responds to the drugs. She wants the groups to contain varied ages, and is wondering if there is a better way than randomization to divide the mice into groups for her experiment. She would like to have as little discrepancy between ages in the groups as possible.

Question

Create 4 groups each containing 10 mice. Your objective is to minimize the sum of all pairwise differences in group means and all pairwise differences in group variances.

Datasets Provided

MOUSEAGE.csv -

A CSV with ages of 40 mice. The *n*th entry contains the age of the *n*th mouse.

Solution Requirements

Since each mouse has a distinct number corresponding to a row in the data set, provide a 4x10 CSV where each entry is a mouse number, and each row is a group of mice. For instance, if a group contains mouse numbers 1 through 10, one of the rows will look like: 1,2,3,4,5,6,7,8,9,10