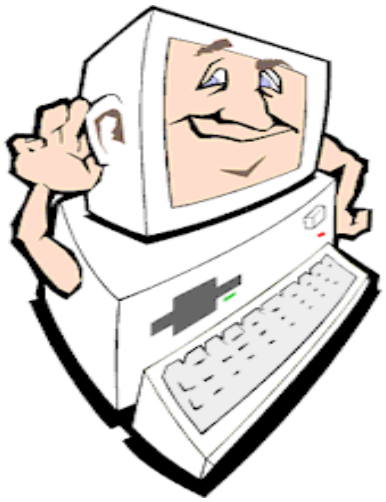
MSA 8150 Project: **Music Source**

Project Type

This problem is considered a **small** problem.

Problem Setup



It is amazing how our hearing system works. In this project we are going to teach the machine how to listen to a music and identify the music origin. For this purpose, 959 music clips have been collected from various parts of planet. From each music clip 116 sound synthesis quantities have been extracted and are reported along with the origin of the music clip (the coordinate of the city of the origin).

The input features of the aforementioned data file are:

- `Var1-Var116` Which are technically sound and wave synthesis features extracted from each music clip. No information is available about the nature of these features and their extraction involves a complex process.

The response variables are:

- `latitude`: which is the latitude of the city the music originates from. Note that the numbers are presented in a different setup than the standard geographical coordinates.
- `longitude`: which is the longitude of the city the music originates from. Note that the numbers are presented in a different setup than the standard geographical coordinates.

Modeling Instructions

You would need to use the file `Train.csv` to fit your models. Your model can take `Var1,...,Var116` as inputs and should be able to predict both `latitude` and `longitude` at the same time. Note that you cannot use any of the coordinates as a feature to predict the other one.

Please make sure to communicate with the instructor and Piazza about any potential ambiguities related to the data.