# Overview

The data is about direct marketing campaigns of a banking institution. The marketing campaigns were based on phone calls. Often, more than one contact to the same client was required, in order to access if the product (bank term deposit) would be subscribed ('yes') or not ('no') subscribed.

The classification goal is to predict if the client will subscribe (yes/no) a term deposit (variable y).

No coding work has been done, so you can use whatever languages and libraries you are most comfortable with. You will need to submit code for each task; preferably in one single Python or R file. List any special package or libraries that you have used.

## Task One

Look at the provided data which includes very basic information for a small collection of customer data.

Feel free to modify the column names, perform basic transformations, or use any simple output file format you prefer.

## Task Two

Show test and prediction results from various ML models. What can you do to improve the prediction accuracy. Check if any dimenisonality reduction will help improve or expedite the solution.

## Task Three

Show if deep-learning can imporve your results?

## Task Four

Because of how vague this problem is, there are several directions that could be taken moving forward. Brainstorm ideas about possible surveys to undertake that would be worth considering in the future. Put together a handful of ideas for this.

These ideas should be high level and about a sentence in length. Good examples include types of data collection or data analysis plans.

# Final Deliverables

When all of these tasks are complete, you should submit the following:

* **Task 1 –** Some graphical based data exploration.
* **Task 2 –** Show different metrics for ML models applied.
* **Task 3 –** Solution from depp-learning model.
* **Task 4 -** A few high level ideas for future projects to identify healthy eating habits
* **General**
  + All of your code
  + Any notes you feel worth including about design decisions made for these tasks

Your code, figures, and notes can be submitted in any reasonable format, but for the sake of cleanliness we prefer submissions to be in one word file.

# Grading

Your results will be graded holistically, with emphasis placed on your modeling and testing workflow. Your prediction accuracy on the blind testing data will be considered, but we’re more interested in your justifications for model type selection, data handling, and creativity.