

## Objective:

Your task is to write a small Python script that predicts which agent is most suitable to convert a particular lead based on the inspection parameters using only the provided dataset.

This task is designed to test your Python ability, your knowledge of Data Science techniques, your ability to find feature importance, outliers, relative importance of variables with deviation in target variable and your ability to work effectively, efficiently and independently within a commercial setting.

This task is designed as well to test your hyper-tuning abilities or lateral thinking.

## Deliverables:

- One Python
- Summary of your insights
- EDA findings should be backed with suitable reasons.

## Your solution should at a minimum do the following:

- Load the data into memory.
- Prepare the data for modelling.
- EDA of the variables  
Feature engineering
- Build a model on training data.
- Test the model on testing data.
- Provide some measure of performance.
- Outlier analysis and detection

## Please answer the following:

1. Briefly describe your approach to this problem and the steps you took.
2. **Basics:**
  - a. How well does your model work?
  - b. How do you know for sure that's how well it works?
  - c. What stats did you use to prove its predictive performance and why?
  - d. What issues did you encounter?
  - e. What insights did you obtain from this data? For example: What features are important? Why? What visualizations help you understand the data?

f. Explain why a particular agent has been assigned a specific service e.g.-(life, education insurance etc.).

G Find the impact each feature on model output

3. **Next steps:**

- a. What other data (if any) would have been useful?
- b. What are some other things you would have done if you had more time?

**TimeLine:** by 10 February

**Instructions:**

- All tasks should be done on a jupyter notebook that should be launched on VM (ubuntu) that needs to be created on your respective azure accounts.
- Code should be optimized,
- Proper markdown and comment
- Solution should not be copied.