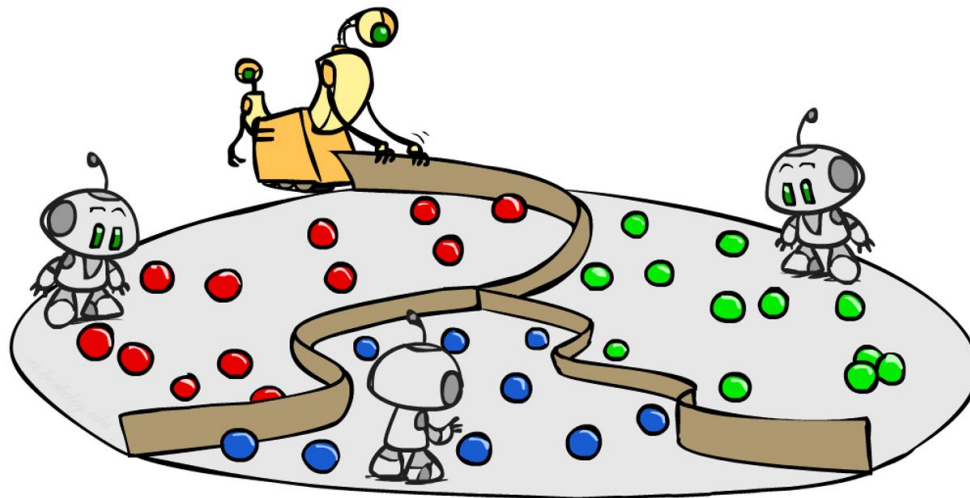# CS-ELEC2C: Machine Learning

Lab Exercise #2: Can You Determine Leads?

Problem Context

Context: ABC Supermarket is planning for the year-end sale - they want to launch a new offer i.e. gold membership for only $499 that is of $999 on normal days (that gives 20% discount on all purchases) only for existing customers, for that they need to do a campaign through phone calls - the best way to reduce the cost of the campaign is to make a predictive model to classify customers who might purchase the offer, using the data they gathered during last year's campaign.

Problem Context

Suppose you are a Data Scientist at ABC Supermarket and your job is to design a machine learning model that identifies the users who are most likely to purchase the said year-end offer.

What You Need to Do

Objective:

Improve the Accuracy, Precision, Recall, and **F1** metric for Lead Identification

Possible Things To Experiment On:

- Other **preprocessing methods**
- Conduct **feature engineering** (add, create, delete features)
- Make **changes to hyperparameters**
- Try out various machine learning models

For the Write-Up:

- Recommended to have:
  - Introduction: discussion of premise and data exploration
  - Methodology: details of overall methodology
  - Experiments: explanation of various trials and experiments
  - Results and Analysis: discussion of why the results came to be with some additional analysis
  - Conclusions & Recommendations: highlight of write-up, thoughts, improvements