# Asad Aftab

Course 5, Task 2 – Lessons Learned Report

# Overview / Background of the assignment

Credit One has initiated a study to investigate why the number of defaults by previously approved consumers are on the rise and how such consumers can be detected before they do any default so that this issue can be proactively addressed before it happens.

# Lessons Learned Report

## Potential Business Value of the Analysis

* The analysis used Python libraries and techniques to drill down in the provided data to find patterns and point towards reasons of default. Charts and graphs were plotted to draw important conclusions for e.g. relationship of default vs sex, age, marital status etc.
* Such analysis a.k.a. Exploratory Data Analysis (EDA) has high business value as it provides early findings in the data at minimal cost / time. As documented in the Jupyter notebook for this task, some important patterns were drawn and useful conclusions were found.

## Main Lessons Learned

* Python combined with a bunch of libraries / packages like matplotlib is a very powerful tool in showing visualizations and finding relationship between various data components.
* Using such EDA some conclusions can be drawn even before starting any machine learning exercise.
* Jupyter notebook is a very handy tool and is also self-sufficient and combined with Anaconda environment is independent and can be run from any local environment like a laptop.
* In case of code errors, pay attention to the error and the line at which it is occurring. Use online resources like stackoverflow.com to find details and solution for the issue.
* During this task at one point for strange reasons matplotlib started erroring out and won’t import as well, after spending some time it was reinstalled from scratch using Anaconda prompt which resolved the issue. Sometimes it may be quicker to reinstall than to investigate and fix the issue..

## Recommendations for Data Science team

* Use Githib, Kaggle and other resources to see how other people have done same or similar projects, no point to reinvent the wheel, re-use what is out there.
* The detailed analysis, tables, charts, graphs in the Jupyter notebook can be copied to a PowerPoint presentation or report for a quick management overview of the data / findings.
* When faced with a complicated problem don’t be overwhelmed, break it down into logical, functional or other steps and deal with each step, one at a time without losing the bigger picture.
* Always keep in mind the audience, while the technical folks need a lot of low-level bits and bytes of details, the management is only concerned with the bigger picture and overall results rather when how they were drawn and the tools / languages that were used.