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| CIS 3120: Programming for Analytics  Final Exam EMWA | |
| Kannan Mohan  Department of CIS, Baruch College | Duration: 2 hours  Max points: 100 |

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**Please go to** [**the INSTRUCTIONS**](https://blogs.baruch.cuny.edu/cis3120/deliverables/final-exam-instructions/) **page and read the instructions before proceeding.**

Answer all questions. Use jupyter notebook to write your code. You have to solve these by writing code in python.

1. Get the closing price from yahoo finance for the following stocks: GM, Ford, Fiat and Chrysler (ticker symbols are GM, F, FCAU) for the period starting 1/1/2017 and ending 6/31/2017. Find the average closing price for each over this period. Also display an appropriate plot to show this entire dataset. (25 points)
2. Use [this NYPD motor vehicle collisions data](https://drive.google.com/file/d/1amtPb4HGtOxuGKbsdJrG2c3cwtbqJiGF/view?usp=sharing) to answer this question. This is data covers November 2017. This is from NYC Open Data. Display the top 10 vehicle types in terms of number of collisions (count of collisions by the field ‘VEHICLE TYPE CODE 1’). Also show this as a plot. (25 points)
3. Here is [a dataset on water consumption in New York City](https://drive.google.com/file/d/1sWHxcfNQHgRL484ApCieFlqiVWbmLM8F/view?usp=sharing). What is the average water consumption across all the years in the dataset? Display a plot that shows a year along the x axis and NYC Consumption (Million gallons per day) on the y axis. (25 points)
4. Scrap the ticker (Baruch’s student-run newspaper) website’s opinion page (<http://theticker.org/category/opinion>) and display the titles of the opinion pieces on that page. (25 points)