**NumPy and Pandas Exercises**

1. Use various functions under Numerical Python to execute the following instructions.
   1. Generate a 2 by 3 matrix containing elements from 1 to 6 and multiply it by a scaler of two.
   2. Create a 3 by 3 identity matrix
   3. Create a 1-D array call *arry1* which contains elements ranging from zero to twenty-seven. Convert *arry1* to a 3-D *arry2*
   4. Create two 2-D arrays with the first array containing elements from 1 to 6 and the second array containing elements from 7 to 12. Horizontally stack the two arrays together. Using the same set of arrays vertically stack the two arrays
   5. Create an equally spaced sequence with a gap of 5 ranging from 0 to 100
2. Use various Functions associated with Pandas to answer the following questions
   1. Create a DataFrame named as students using a list of names of 5 students.
   2. Write a program to create a DataFrame **teams** using a list of names of Ghana Premier League Teams and the goals they scored in their previous five matches.
   3. Write a program to create a DataFrame **countries** using a dictionary which stored country name, capitals, and populations of the country. Do this for West African Countries.
   4. Consider the following data and write a programme to capture the data in python.

| SNO | Team | GF | GA | PTS |
| --- | --- | --- | --- | --- |
| 1 | Hearts of Oak | 120 | 35 | 80 |
| 2 | Asante Kotoko | 90 | 55 | 60 |
| 3 | Ebusua Dwarfs | 90 | 60 | 60 |
| 4 | Sekondi Hassacas | 80 | 43 | 55 |
| 5 | Okwahu United | 78 | 39 | 53 |
| 6 | Tano Bofoakwa | 70 | 50 | 49 |
| 7 | BA United | 71 | 55 | 44 |

* + 1. Print the Team name along with Goals For (GF), Goals Against (GA) and Points (PTS).
    2. Display the details of the team that:
       1. considered more than 30 goals
       2. Scored less than 80 goals
       3. had less than 60 points

1. Use the Data Set Labelled cars to answer the following questions

* 1. From the given dataset print the first and last five rows
  2. Clean the dataset and update the CSV file
  3. Find the most expensive car company name
  4. Print All Kantaka Cars details
  5. Count total cars per company
  6. Find each company’s Highest price car
  7. Find the average mileage of each car making company
  8. Sort all cars by Price column
     1. Concatenate two data frames using the following two dictionaries

GhanaCars = {'Company': ['KANTAKA', 'VW', 'BMV', 'NEOPLAN'], 'Price': [23845, 171995, 135925 , 71400]}

JapaneseCars = {'Company': ['Toyota', 'Honda', 'Nissan', 'Mitsubishi '], 'Price': [29995, 23600, 61500 , 58900]}