



## Numpy Pandas & Group By

### PART A

1. Keep top 3 frequent values as it is in the **series** and replace others values by average[Series should have minimum 3 distinct elements].

**Example:**

Input: [1,3,5,5,6,6,7,7,7]

Output: [5.22,5.22,5,5,6,6,7,7,7]

2. Replace the first character of every element with "\$" and add "\_" at the end of every element present in the **list**.

**Example:**

Input: ["abc","def","ghi"]

Output: ["\$bc\_","\$ef\_","\$hi\_"]

3.
  - a. Convert a numpy array to a dataframe of given shape [User given]
  - b. Calculate the number of characters in each word in a series [ User given, series should have at least 5 elements]

4. Use this dataframe and find out the mean and highest mark for each class.

0]:

	Class	Mark
0	A	1
1	A	2
2	B	3
3	B	4
4	A	5
5	A	6
6	B	7
7	B	8

## PART B

Use the data (Titanic.csv) for the below questions(1,2,3) !!

1. Find the average fare from each Port of Embarkation.
2. Find the survival ratio in each gender in each PClass.
3. Use 3 columns(Name,Age,Ticket) to create a primary key for every row. The column values should be merged using a '\_' only and there shouldn't be any spaces between the characters.

Eg. Braund,Mr.OwenHarris\_22\_A/521171

4. Find the desired output as shown in the image below.

**Note :** Create the data frame as shown in the image below

Initial:

	Anime	Genre
0	Shingeki No Kyojin	[Action, Drama, Fantasy, Military, Mystery, Shounen, Super Power]
1	Fullmetal Alchemist: Brotherhood	[Action, Military, Adventure, Comedy, Drama, Magic, Fantasy, Shounen]

Output 1: (Exception: for loop can be used for this question)

	Anime	Genre	Fantasy	Shounen	Adventure	Super Power	Mystery	Military	Action	Drama	Magic	Comedy
0	Shingeki No Kyojin	[Action, Drama, Fantasy, Military, Mystery, Sh...	1	1	0	1	1	1	1	1	0	0
1	Fullmetal Alchemist: Brotherhood	[Action, Military, Adventure, Comedy, Drama, M...	1	1	1	0	0	1	1	1	1	1

Output 2: (Avoid using loops)

	Genre	Anime
0	Action	[Shingeki No Kyojin, Fullmetal Alchemist: Brotherhood]
1	Adventure	[Fullmetal Alchemist: Brotherhood]
2	Comedy	[Fullmetal Alchemist: Brotherhood]
3	Drama	[Shingeki No Kyojin, Fullmetal Alchemist: Brotherhood]
4	Fantasy	[Shingeki No Kyojin, Fullmetal Alchemist: Brotherhood]
5	Magic	[Fullmetal Alchemist: Brotherhood]
6	Military	[Shingeki No Kyojin, Fullmetal Alchemist: Brotherhood]
7	Mystery	[Shingeki No Kyojin]
8	Shounen	[Shingeki No Kyojin, Fullmetal Alchemist: Brotherhood]
9	Super Power	[Shingeki No Kyojin]

## Intermediate Step for Output 2:

	Anime	Genre
0	Shingeki No Kyojin	Action
0	Shingeki No Kyojin	Drama
0	Shingeki No Kyojin	Fantasy
0	Shingeki No Kyojin	Military
0	Shingeki No Kyojin	Mystery
0	Shingeki No Kyojin	Shounen
0	Shingeki No Kyojin	Super Power
1	Fullmetal Alchemist: Brotherhood	Action
1	Fullmetal Alchemist: Brotherhood	Military
1	Fullmetal Alchemist: Brotherhood	Adventure
1	Fullmetal Alchemist: Brotherhood	Comedy
1	Fullmetal Alchemist: Brotherhood	Drama
1	Fullmetal Alchemist: Brotherhood	Magic
1	Fullmetal Alchemist: Brotherhood	Fantasy
1	Fullmetal Alchemist: Brotherhood	Shounen