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| **Week 1**  **Use case # 01 (python, numpy, pandas)**     * 01.1   + Take 2 input strings     - Str1 = 'jdjdjdjkkd' <any string>     - Str2 = 'jj55kkk5k' <any string>   + Write a function     - Check the lengths are same for strings       * Else return with a message "strings are of unequal lengths"     - Compute the total number of corresponding places, the characters are different in the strings       * Return the count * This is about HAMMING distance used in distance metrics   + Description   + Use cases      * 01.2   + Take 2 sets     - Set1 = {1,4,5,6,8} <any set>     - Set2 = {3,4,5,6,8} <any set>   + Write a function     - Use the intersection method to find the elements common to both sets (elements present in both set1 and set2).     - Use the union method to find the elements present in either set1 or set2 or both.     - Divide the size of the intersection by the size of the union     - Return the size with a message "Similarity between sets = {size}" * This is about JACCARD distance used in distance metrics   + Description   + Use cases      * 01.3   + Take 2 data points     - point1 = (1, 2) <any point, and any number of dimensions>     - point2 = (4, 6) <any point, and any number of dimensions>   + Write a function     - Check if the dimensions of the given points are same or not       * If not return with a message "Dimensions not same"     - To compute the square of difference of the corresponding co-ordinate     - Sum the square of the differences     - Take square root of the sum     - Return the result * This is about EUCLIDEAN distance used in distance metrics   + Description   + Use cases      * 01.4   + Take 2 array of random floats     - Actual\_values = [a set of 10 random floats]     - predicted\_values = [a set of 10 random floats]   + Write a function     - To compute       * Result1 = (1/n) \* add\_sum((actual\_value\_i - predicted\_value\_i)^2)       * Result2 = (1/n) \* sum( |(actual\_value\_i - predicted\_value\_i) / actual\_value\_i| \* 100 )     - Return the results * This is about Mean Squared Error used in residual metrics   + Description   + Use cases |
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