Data Analysis with Python

Cheat Sheet: Data Wrangling

Package/Method	Description	Code Example

Replace missing data with frequency	Replace the missing values of the data set attribute with the mode common occurring entry in the column.	`1. 1`
		`2. 2`
		
		`1. MostFrequentEntry = df['attribute_name'].value_counts().idxmax()`
		`2. df['attribute_name'].replace(np.nan,MostFrequentEntry,inplace=True)`
		Copied!

Replace missing data with mean	Replace the missing values of the data set attribute with the mean of all the entries in the column.	`1. 1`
		`2. 2`
		
		`1. AverageValue=df['attribute_name'].astype(data_type).mean(axis=0)`
		`2. df['attribute_name'].replace(np.nan, AverageValue, inplace=True)`
		Copied!

Fix the data types	Fix the data types of the columns in the dataframe.	`1. 1`
		`2. 2`
		`3. 3`
		
		`1. df[['attributed_name', 'attributed_name', ...]] =`
		`2. df[['attributed_name', 'attributed_name', ...]].astype('data_type')`
		`3. #data_type is int, float, char, etc.`
		Copied!

Data Normalization	Normalize the data in a column such that the values are restricted between 0 and 1.	`1. 1`
		
		`1. df['attribute_name'] =`
		`df['attribute_name']/df['attribute_name'].max()`
		Copied!

Binning	Create bins of data for better analysis and visualization.	`1. 1`
		`2. 2`
		`3. 3`
		`4. 4`
		`5. 5`
		`6. 6`
		
		`1. bins = np.linspace(min(df['attribute_name']),`
		`2. max(df['attribute_name'],n)`
		`3. # n is the number of bins needed`
		`4. GroupNames = ['Group1','Group2','Group3',...]`
		`5. df['attribute_name'] =`
		`6. pd.cut(df['attribute_name'], bins, labels=GroupNames, include_lowest=True)`
		Copied!

Change column name	Change the label name of a dataframe column.	`1. 1`
		
		`1. df.rename(columns={'old_name':\'new_name'}, inplace=True)`
		Copied!

Indicator Variables	Create indicator variables for categorical data.	`1. 1`
		`2. 2`
		
		`1. dummy_variable = pd.get_dummies(df['attribute_name'])`
		`2. df = pd.concat([df, dummy_variable],axis = 1)`
		Copied!