

## 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.	<pre>MostFrequentEntry = df['attribute_name'].value_counts().idxmax() df['attribute_name'].replace(np.nan, MostFrequentEntry, inplace=True)</pre>
Replace missing data with mean	Replace the missing values of the data set attribute with the mean of all the entries in the column.	<pre>AverageValue=df['attribute_name'].astype(&lt;data_type&gt;).mean(axis=0) df['attribute_name'].replace(np.nan, AverageValue, inplace=True)</pre>
Fix the data types	Fix the data types of the columns in the dataframe.	<pre>df[['attribute1_name', 'attribute2_name', ...]] = df[['attribute1_name', 'attribute2_name', ...]].astype('data_type') #data_type is int, float, char, etc.</pre>
Data Normalization	Normalize the data in a column such that the values are restricted between 0 and 1.	<pre>df['attribute_name'] = df['attribute_name']/df['attribute_name'].max()</pre>
Binning	Create bins of data for better analysis and visualization.	<pre>bins = np.linspace(min(df['attribute_name']), max(df['attribute_name'],n) # n is the number of bins needed GroupNames = ['Group1','Group2','Group3,...] df['binned_attribute_name'] = pd.cut(df['attribute_name'], bins, labels=GroupNames, include_lowest=True)</pre>
Change column name	Change the label name of a dataframe column.	<pre>df.rename(columns={'old_name':'new_name'}, inplace=True)</pre>
Indicator Variables	Create indicator variables for categorical data.	<pre>dummy_variable = pd.get_dummies(df['attribute_name']) df = pd.concat([df, dummy_variable],axis = 1)</pre>