

# 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>1. 1 2. 2  1. MostFrequentEntry = df['attribute_name'].value_counts().idxmax() 2. df['attribute_name'].replace(np.nan,MostFrequentEntry,&gt;df['attribute_name'].replace(np.nan,MostFrequentEntry, inplace=T</pre> <div>Copied!</div>
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>1. 1 2. 2  1. AverageValue=df['attribute_name'].astype(&lt;data_type&gt;).mean(axis=0) 2. df['attribute_name'].replace(np.nan, AverageValue, inplace=True)</pre> <div>Copied!</div>
Fix the data types	Fix the data types of the columns in the dataframe.	<pre>1. 1 2. 2 3. 3  1. df[['attribute1_name', 'attribute2_name', ...]] = 2. df[['attribute1_name', 'attribute2_name', ...]].astype('data_type') 3. #data_type is int, float, char, etc.</pre> <div>Copied!</div>
Data Normalization	Normalize the data in a column such that the values are restricted between 0 and 1.	<pre>1. 1  1. df['attribute_name'] =    df['attribute_name']/df['attribute_name'].max()</pre> <div>Copied!</div>
Binning	Create bins of data for better analysis and visualization.	<pre>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['binned_attribute_name'] = 6. pd.cut(df['attribute_name'], bins, labels=GroupNames, include_lowest=True)</pre> <div>Copied!</div>
Change column name	Change the label name of a dataframe column.	<pre>1. 1  1. df.rename(columns={'old_name':'new_name'}, inplace=True)</pre> <div>Copied!</div>
Indicator Variables	Create indicator variables for categorical data.	<pre>1. 1 2. 2  1. dummy_variable = pd.get_dummies(df['attribute_name']) 2. df = pd.concat([df, dummy_variable],axis = 1)</pre> <div>Copied!</div>



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