Importing the library

```
import pandas as pd
```

Creating a DataFrame

```
df = pd.DataFrame({"a":[4, 5, 6],
"b":[1, 2, 3], "c":[7, 8, 9]})
print(df)
   a b c
0  4 1 7
1  5 2 8
2  6 3 9
```

"a", "b", and "c" are column names
0, 1, and 2 are indexes

Working with columns

df["column name"]	Refer to one column
a = df["column name"]	Store column in a variable
df["new column"] =	Add a new column

Example:
df["avg"] = df[["a", "b", "c"]].mean(axis=1)

Add a new column "avg" with the mean of the values across the specified columns.
(axis=0 would find the mean across rows).

Selecting data

df["a"][x]	Value in column "a" with index x
df["a"].loc[df["b"] == x]	Values in col "a" with value x in col "b"

You can store selected values in a variable. Ex:
b_1 = df["a"].loc[df["b"] == 1]

Sorting a DataFrame

df.sort_values(["a"])	Sort DataFrame based on column "a"
df.sort_values(["a"], ascending = False)	Sort in descending order

You can store a sorted DataFrame in a variable.
Ex: df_sorted = df.sort_values(["a"])

Reading in and writing data

df = pd.read_csv("file.csv")	Read in CSV file
df = pd.read_table("file.txt")	Read in TXT file
df.to_csv("data.csv", index=False)	Output CSV file (index optional)

pandas functions

len(df)	Number of rows in DataFrame
df.head(x)	First x lines of DataFrame
df.dtypes	Data type of each column
df.columns	DataFrame column names
df.count()	Number of values in each column
df.sum()	Sum of values in each column
df.min()	Minimum value in each column
df.max()	Maximum value in each column
df.mean()	Mean value in each column
df.median()	Median value in each column
df.var()	Variance of each column
df.std()	Standard deviation of each column

Replace df with df["Column Name"] or an equivalent variable to use these functions for a single column or set of selected values.