

# Project: NYC schools

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```
[1] ✓ 8.6s Python
import pandas as pd
schools = pd.read_csv("schools.csv")
schools.head()
```

	school_name	borough	building_code	average_math	average_reading	average_writing	percent_tested
0	New Explorations into Science, Technology and ...	Manhattan	M022	657	601	601	NaN
1	Essex Street Academy	Manhattan	M445	395	411	387	78.9
2	Lower Manhattan Arts Academy	Manhattan	M445	418	428	415	65.1
3	High School for Dual Language and Asian Studies	Manhattan	M445	613	453	463	95.9
4	Henry Street School for International Studies	Manhattan	M056	410	406	381	59.7

```
[2] ✓ 0.0s Python
threshold = 0.8 * 800
best_math_schools = schools[schools['average_math'] >= threshold][['school_name', 'average_math']]

best_math_schools = best_math_schools.sort_values(by='average_math', ascending=False)

best_math_schools
```

	school_name	average_math
88	Stuyvesant High School	754
170	Bronx High School of Science	714
93	Staten Island Technical High School	711
365	Queens High School for the Sciences at York Co...	701
68	High School for Mathematics, Science, and Engi...	683
280	Brooklyn Technical High School	682
333	Townsend Harris High School	680
174	High School of American Studies at Lehman College	669
0	New Explorations into Science, Technology and ...	657
45	Eleanor Roosevelt High School	641

```
schools['total_SAT'] = schools['average_math'] + schools['average_reading'] + schools['average_writing']

top_10_schools = schools[['school_name', 'total_SAT']].sort_values(by='total_SAT', ascending=False).head(10)

top_10_schools
```

[3] ✓ 0.0s Python

	school_name	total_SAT
88	Stuyvesant High School	2144
170	Bronx High School of Science	2041
93	Staten Island Technical High School	2041
174	High School of American Studies at Lehman College	2013
333	Townsend Harris High School	1981
365	Queens High School for the Sciences at York Co...	1947
5	Bard High School Early College	1914
280	Brooklyn Technical High School	1896
45	Eleanor Roosevelt High School	1889
68	High School for Mathematics, Science, and Engi...	1889

```
borough_stats = schools.groupby('borough').agg(
    num_schools=('school_name', 'count'),
    average_SAT=('total_SAT', 'mean'),
    std_SAT=('total_SAT', 'std')
).reset_index()

largest_std_dev = borough_stats.loc[borough_stats['std_SAT'].idxmax()]

largest_std_dev_df = pd.DataFrame({
    'borough': [largest_std_dev['borough']],
    'num_schools': [largest_std_dev['num_schools']],
    'average_SAT': [round(largest_std_dev['average_SAT'], 2)],
    'std_SAT': [round(largest_std_dev['std_SAT'], 2)]
})

largest_std_dev
```

[8] ✓ 0.0s Python

```
borough      Manhattan
num_schools      89
average_SAT    1340.134831
std_SAT        230.29414
Name: 2, dtype: object
```