

SEATWORK 6.1 EXPLATORY  
DATA ANALYSIS ON YOUR OWN  
DATA SET

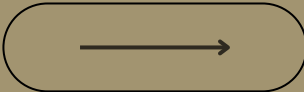
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CPE22S3



# NIKE SHOES SALES

This dataset can gain insight into which Nike shoes are most popular among consumers



CPE 311:  
COMPUTATIONAL THINKING  
WITH PYTHON

PRESENTED BY  
John Rome A. Belocora

# THE DATA SET



|     | product_name                         | product_id | listing_price | sale_price | discount | brand | description                                       | rating | reviews | images  |
|-----|--------------------------------------|------------|---------------|------------|----------|-------|---|--------|---------|---|
| 0   | Nike Air Force 1 '07 Essential       | CJ1646-600 | 0             | 7495       | 0        | Nike  | Let your shoe game shimmer in the Nike Air For... | 0.0    | 0       | ["https://static.nike.com/a/images/t_PDP_1728_... |
| 1   | Nike Air Force 1 '07                 | CT4328-101 | 0             | 7495       | 0        | Nike  | The legend lives on in the Nike Air Force 1 '0... | 0.0    | 0       | ["https://static.nike.com/a/images/t_PDP_1728_... |
| 2   | Nike Air Force 1 Sage Low LX         | CI3482-200 | 0             | 9995       | 0        | Nike  | Taking both height and craft to new levels, th... | 0.0    | 0       | ["https://static.nike.com/a/images/t_PDP_1728_... |
| 3   | Nike Air Max Dia SE                  | CD0479-200 | 0             | 9995       | 0        | Nike  | Designed for a woman's foot, the Nike Air Max ... | 0.0    | 0       | ["https://static.nike.com/a/images/t_PDP_1728_... |
| 4   | Nike Air Max Verona                  | CZ6156-101 | 0             | 9995       | 0        | Nike  | Pass on the good vibes in the Nike Air Max Ver... | 0.0    | 0       | ["https://static.nike.com/a/images/t_PDP_1728_... |
| ... | ...                                  | ...        | ...           | ...        | ...      | ...   | ...   | ...    | ...     | ...   |
| 638 | Air Jordan 8 Retro                   | CI1236-100 | 15995         | 12797      | 0        | Nike  | The Air Jordan 8 Retro recaptures the memorabl... | 5.0    | 1       | ["https://static.nike.com/a/images/t_PDP_1728_... |
| 639 | Nike Phantom Venom Club IC           | AO0578-717 | 4995          | 3497       | 0        | Nike  | The Nike Phantom Venom Club IC is engineered f... | 0.0    | 0       | NaN   |
| 640 | Nike Mercurial Superfly 7 Academy TF | AT7978-414 | 8495          | 5947       | 0        | Nike  | The soft upper of the Nike Mercurial Superfly ... | 5.0    | 1       | NaN   |
| 641 | Nike Air Max 98                      | AH6799-300 | 0             | 16995      | 0        | Nike  | The Nike Air Max 98 features the OG design lin... | 4.0    | 4       | ["https://static.nike.com/a/images/t_PDP_1728_... |
| 642 | Nike P-6000 SE                       | CJ9585-600 | 8995          | 6297       | 0        | Nike  | A mash-up of Pegasus' past, the Nike P-6000 SE... | 0.0    | 0       | ["https://static.nike.com/a/images/t_PDP_1728_... |

# CREATING A DATA FRAME

```
basic_data = pd.DataFrame(data, columns=['product_name', 'product_id',  
                                         'sale_price', 'rating', 'reviews'])  
basic_data
```

- **BASIC DATA**

A DATAFRAME  
THAT HAS THE  
BASIC OR THE  
NECESSARY  
INFORMATIONS  
OF THE DATA

|     | product_name                         | product_id | sale_price | rating | reviews |
|-----|--------------------------------------|------------|------------|--------|---------|
| 0   | Nike Air Force 1 '07 Essential       | CJ1646-600 | 7495       | 0.0    | 0       |
| 1   | Nike Air Force 1 '07                 | CT4328-101 | 7495       | 0.0    | 0       |
| 2   | Nike Air Force 1 Sage Low LX         | CI3482-200 | 9995       | 0.0    | 0       |
| 3   | Nike Air Max Dia SE                  | CD0479-200 | 9995       | 0.0    | 0       |
| 4   | Nike Air Max Verona                  | CZ6156-101 | 9995       | 0.0    | 0       |
| ... | ...                                  | ...        | ...        | ...    | ...     |
| 638 | Air Jordan 8 Retro                   | CI1236-100 | 12797      | 5.0    | 1       |
| 639 | Nike Phantom Venom Club IC           | AO0578-717 | 3497       | 0.0    | 0       |
| 640 | Nike Mercurial Superfly 7 Academy TF | AT7978-414 | 5947       | 5.0    | 1       |
| 641 | Nike Air Max 98                      | AH6799-300 | 16995      | 4.0    | 4       |
| 642 | Nike P-6000 SE                       | CJ9585-600 | 6297       | 0.0    | 0       |



# ADDING A NEW COLUMN

```
basic_data['Review Checker'] = np.where(basic_data['reviews'] == 0,
                                       'No Reviews', 'With Reviews')
basic_data
```

|     | product_name                         | product_id | sale_price | rating | reviews | Review Checker |
|-----|--------------------------------------|------------|------------|--------|---------|----------------|
| 0   | Nike Air Force 1 '07 Essential       | CJ1646-600 | 7495       | 0.0    | 0       | No Reviews     |
| 1   | Nike Air Force 1 '07                 | CT4328-101 | 7495       | 0.0    | 0       | No Reviews     |
| 2   | Nike Air Force 1 Sage Low LX         | CI3482-200 | 9995       | 0.0    | 0       | No Reviews     |
| 3   | Nike Air Max Dia SE                  | CD0479-200 | 9995       | 0.0    | 0       | No Reviews     |
| 4   | Nike Air Max Verona                  | CZ6156-101 | 9995       | 0.0    | 0       | No Reviews     |
| ... | ...                                  | ...        | ...        | ...    | ...     | ...            |
| 638 | Air Jordan 8 Retro                   | CI1236-100 | 12797      | 5.0    | 1       | With Reviews   |
| 639 | Nike Phantom Venom Club IC           | AO0578-717 | 3497       | 0.0    | 0       | No Reviews     |
| 640 | Nike Mercurial Superfly 7 Academy TF | AT7978-414 | 5947       | 5.0    | 1       | With Reviews   |
| 641 | Nike Air Max 98                      | AH6799-300 | 16995      | 4.0    | 4       | With Reviews   |
| 642 | Nike P-6000 SE                       | CJ9585-600 | 6297       | 0.0    | 0       | No Reviews     |

# FILTERING ROWS BASED ON THE VALUES

WITH REVIEWS:

```
with_reviews = basic_data.loc[basic_data['Review Checker'] == 'With Reviews']  
with_reviews
```

|     | product_name                         | product_id | sale_price | rating | reviews | Review Checker |
|-----|--------------------------------------|------------|------------|--------|---------|----------------|
| 7   | Nike Free Metcon 3                   | CJ0861-017 | 9995       | 5.0    | 1       | With Reviews   |
| 8   | Nike Zoom Pegasus Turbo 2            | AT8242-009 | 15995      | 2.7    | 14      | With Reviews   |
| 9   | Nike Air Max 270 React ENG           | CK2595-500 | 14995      | 5.0    | 2       | With Reviews   |
| 10  | Nike Air Max 90                      | CD0490-104 | 9995       | 5.0    | 9       | With Reviews   |
| 11  | Nike Air Force 1 '07                 | 315115-112 | 7495       | 4.5    | 67      | With Reviews   |
| ... | ...                                  | ...        | ...        | ...    | ...     | ...            |
| 636 | Kyrie 6 'Enlightenment'              | BQ4630-500 | 8797       | 4.4    | 10      | With Reviews   |
| 637 | Nike React Metcon AMP                | CT9155-063 | 13995      | 3.0    | 1       | With Reviews   |
| 638 | Air Jordan 8 Retro                   | CI1236-100 | 12797      | 5.0    | 1       | With Reviews   |
| 640 | Nike Mercurial Superfly 7 Academy TF | AT7978-414 | 5947       | 5.0    | 1       | With Reviews   |
| 641 | Nike Air Max 98                      | AH6799-300 | 16995      | 4.0    | 4       | With Reviews   |

WITHOUT REVIEWS:

```
without_reviews = basic_data.loc[basic_data['Review Checker'] == 'No Reviews']
without_reviews
```

|     | product_name                       | product_id | sale_price | rating | reviews | Review Checker |
|-----|------------------------------------|------------|------------|--------|---------|----------------|
| 0   | Nike Air Force 1 '07 Essential     | CJ1646-600 | 7495       | 0.0    | 0       | No Reviews     |
| 1   | Nike Air Force 1 '07               | CT4328-101 | 7495       | 0.0    | 0       | No Reviews     |
| 2   | Nike Air Force 1 Sage Low LX       | CI3482-200 | 9995       | 0.0    | 0       | No Reviews     |
| 3   | Nike Air Max Dia SE                | CD0479-200 | 9995       | 0.0    | 0       | No Reviews     |
| 4   | Nike Air Max Verona                | CZ6156-101 | 9995       | 0.0    | 0       | No Reviews     |
| ... | ...                                | ...        | ...        | ...    | ...     | ...            |
| 629 | Nike Mercurial Vapor 13 Club MG    | AT7968-606 | 4995       | 0.0    | 0       | No Reviews     |
| 634 | Nike Mercurial Vapor 13 Academy IC | AT7993-414 | 5247       | 0.0    | 0       | No Reviews     |
| 635 | Nike Tiempo Legend 8 Academy TF    | AT6100-606 | 6495       | 0.0    | 0       | No Reviews     |
| 639 | Nike Phantom Venom Club IC         | AO0578-717 | 3497       | 0.0    | 0       | No Reviews     |
| 642 | Nike P-6000 SE                     | CJ9585-600 | 6297       | 0.0    | 0       | No Reviews     |



# CALCULATING THE RANGE

WITH REVIEWS:

```
num_of_with = len(basic_data[basic_data['Review Checker'] == "With Reviews"])  
  
print('Number of Shoes that has Reviews:', num_of_with)
```

Number of Shoes that has Reviews: 414

WITHOUT REVIEWS:

```
num_of_without = len(basic_data[basic_data['Review Checker'] == "No Reviews"])  
  
print('Number of Shoes that has no Reviews:', num_of_without)
```

Number of Shoes that has no Reviews: 229

# GETTING THE HIGHEST AND LOWEST PRICE

HIGHEST PRICE:

```
max_sale_price_index = np.argmax(basic_data['sale_price'])
max_sale_price_row = basic_data.loc[max_sale_price_index]

print("Nike Shoe with the Highest Sale Price:")
print(max_sale_price_row)
```

```
Nike Shoe with the Highest Sale Price:
product_name      Nike Air VaporMax Flyknit 2 LXX
product_id        AT5673-700
sale_price        36500
rating            0.0
reviews           0
Review Checker    No Reviews
```

LOWEST PRICE:

```
min_sale_price_index = np.argmin(basic_data['sale_price'])
min_sale_price_row = basic_data.loc[min_sale_price_index]

print("\nNike Shoe with the Lowest Sale Price:")
print(min_sale_price_row)
```

```
Nike Shoe with the Lowest Sale Price:
product_name      Nike Kawa Shower
product_id        832528-001
sale_price        1595
rating            4.5
reviews           6
Review Checker    With Reviews
```



# GETTING THE HIGHEST AND LOWEST RATING

HIGHEST RATING:

```
max_rating_index = np.argmax(basic_data['rating'])
max_rating_row = basic_data.loc[max_rating_index]

print("Nike Shoe with the Highest Rating:")
print(max_rating_row)
```

LOWEST RATING:

```
min_rating_index = np.argmin(basic_data['rating'])
min_rating_row = basic_data.loc[min_rating_index]

print("Nike Shoe with the Lowest Rating:")
print(min_rating_row)
```

Nike Shoe with the Highest Rating:

|                |                    |
|----------------|--------------------|
| product_name   | Nike Free Metcon 3 |
| product_id     | CJ0861-017         |
| sale_price     | 9995               |
| rating         | 5.0                |
| reviews        | 1                  |
| Review Checker | With Reviews       |

Nike Shoe with the Lowest Rating:

|                |                                |
|----------------|--------------------------------|
| product_name   | Nike Air Force 1 '07 Essential |
| product_id     | CJ1646-600                     |
| sale_price     | 7495                           |
| rating         | 0.0                            |
| reviews        | 0                              |
| Review Checker | No Reviews                     |

# GETTING THE MEAN, MEDIAN, AND MODE

MEAN:

```
mean_sale_price = basic_data['sale_price'].mean()
mean_rating = basic_data['rating'].mean()
mean_reviews = basic_data['reviews'].mean()

print(f"Average of Sale Price: {mean_sale_price}")
print(f"Average of Rating: {mean_rating}")
print(f"Average of Reviews: {mean_reviews}")
```

```
Average of Sale Price: 10213.676516329704
Average of Rating: 2.734836702954899
Average of Reviews: 7.181959564541213
```

MEDIAN:

```
median_sale_price = basic_data['sale_price'].median()
median_rating = basic_data['rating'].median()
median_reviews = basic_data['reviews'].median()

print(f"Median of Sale Price: {median_sale_price}")
print(f"Median of Rating: {median_rating}")
print(f"Median of Reviews: {median_reviews}")
```

```
Median of Sale Price: 9597.0
Median of Rating: 3.8
Median of Reviews: 1.0
```

MODE:

```
mode_sale_price = basic_data['sale_price'].mode()
mode_rating = basic_data['rating'].mode()
mode_reviews = basic_data['reviews'].mode()

print(f"Mode of Sale Price: {mode_sale_price}")
print(f"Mode of Rating: {mode_rating}")
print(f"Mode of Reviews: {mode_reviews}")
```

```
Mode of Sale Price: 0    9995
Name: sale_price, dtype: int64
Mode of Rating: 0    0.0
Name: rating, dtype: float64
Mode of Reviews: 0    0
Name: reviews, dtype: int64
```

```
mode_sale_price = basic_data['sale_price'].mode().values
mode_rating = basic_data['rating'].mode().values
mode_reviews = basic_data['reviews'].mode().values

print(f"Mode of Sale Price: {mode_sale_price}")
print(f"Mode of Rating: {mode_rating}")
print(f"Mode of Reviews: {mode_reviews}")
```

```
Mode of Sale Price: [9995]
Mode of Rating: [0.]
Mode of Reviews: [0]
```



**THANK YOU  
FOR LISTENING**



**JUST DO IT.**