Congratulations! You passed!

TO PASS 80% or higher

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Test Your Project Understanding

LATEST SUBMISSION GRADE

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1. You have imported a CSV file containing data into a Pandas dataframe **df**. What built-in function in Pandas do you call to take a look at the first five entries in **df**?

1 / 1 point

- ○ df.info()
- ◉ df.head()

Correct

Correct!

2. As a case-study, our objective in this project is to implement linear regression with one variable to predict profits for a bike sharing company. Let's suppose that Jane is the CEO of a bike sharing startup and she's considering different cities to expand into. Her company already has bikes in various cities and she has data for profits and populations from the cities. Jane would like to use this data to help her select which city to expand to next.

1 / 1 point

For her exploratory data analysis phase, she want wants to use the Seaborn library create a scatterplot to visualize the Population on the x-axis and Profits on the y-axis using her data from a dataframe **df**. Which option would you recommend she use to create the scatterplot using Seaborn?

- (●)
```
1 sns.scatterplot(x='Population', y='Profit', data=df)
```

- ( )
```
1 sns.scatter(x='Population', y='Profit', data=df)
```

- ( )
```
1 plt.scatter(df['Population'], df['Profit'])
```

✓ **Correct**

Good job! We did exactly this in Task 3 of this hands-on project

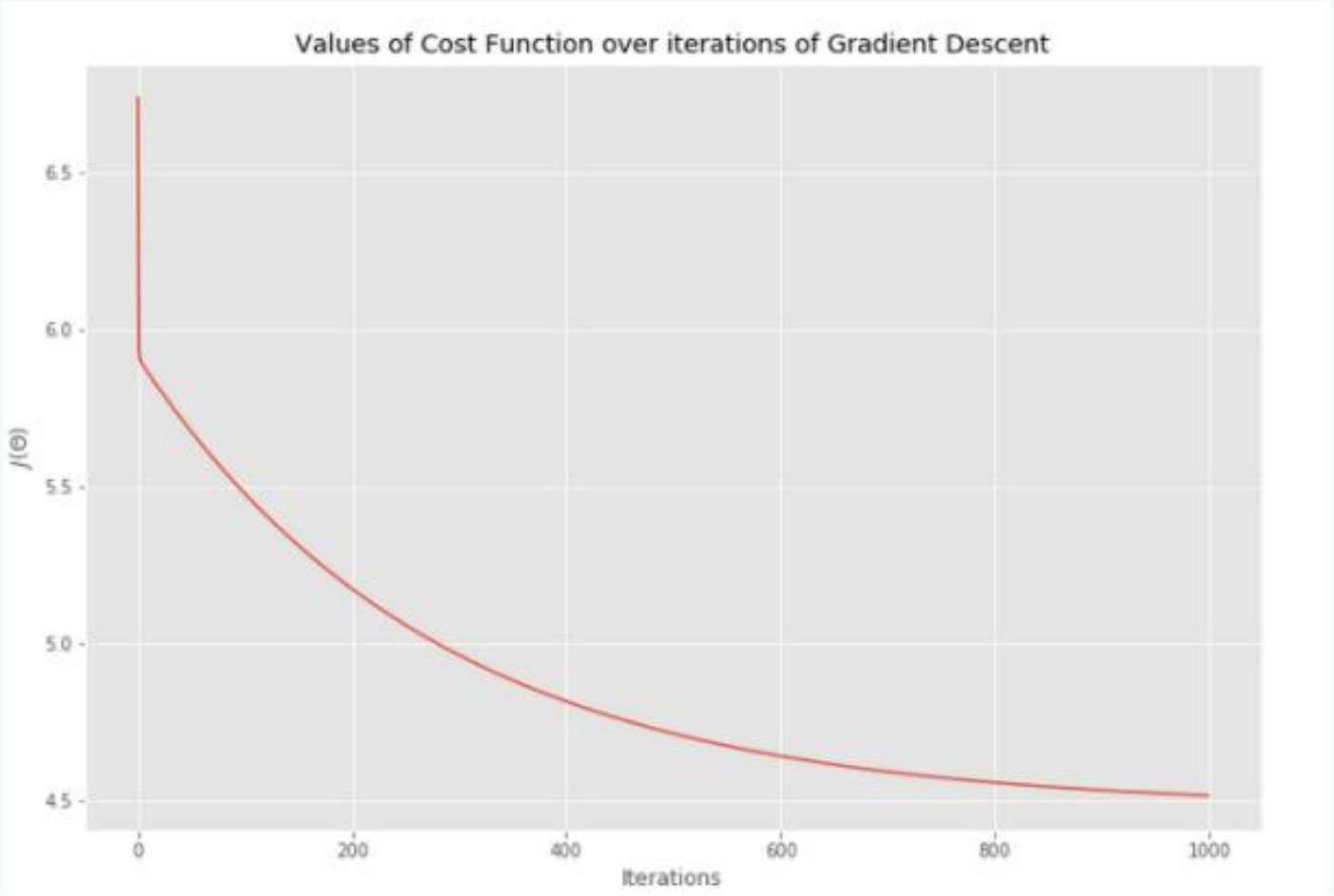
3. When the linear regression fits the data well, the value of the cost function $J(\theta)$ is supposed to decrease over the number of iterations of gradient descent. True or False?

1 / 1 point

- (●) True
- ( ) False

✓ **Correct**

Correct! The objective is to minize the cost function. You will observe a monotonic decrease until convergence like in Task 7 of this hands on project:



4. In this hands-on project, how many features did we use to predict the target? **1 / 1 point**

- ○ 3
- ○ 2
- ◉ 1
- ○ None of the above

✓ **Correct**

Correct! We regressed Profit and Population.

5. In Task 4: Compute the Cost $J(\theta)$, why did we add an extra dimension to our input or feature matrix X? **1 / 1 point**

- ○ To speed up the gradient descent algorithm
- ◉ To accomodate the intercept term and set it to all ones
- ○ To accomodate the intercept term and set it to all zeros

✓ **Correct**

Correct! W have to add another dimension to our data to accommodate the θ_0 intercept term and set it to all ones. This allows us to treat θ_0 as simply another 'feature'.