

Learning Objectives

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Learning Objectives

- Create **custom functions**
- Repeat tasks through iterable objects **using for loops**
- Incorporate conditional logic using **if statements**

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Custom Functions Workout

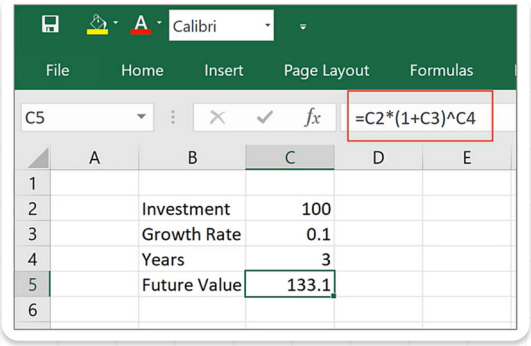
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In your Jupyter Notebook

Recreate the following **Excel formula** as a **custom Python** function that returns **Future Value**

Use the values in **Column C below**



investment * (1 + rate) ** years

function(arg_1, arg_2, arg_3) :

round(number, decimal_places)

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Adding Arguments Workout

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In your Jupyter Notebook

You're going to see the **following price lists** in the **format:**

[current_price, target_price]:

```
# Run this code cell to create the price lists below
jnj = [139.49, 144.20]
unh = [265.31, 284.14]
pfe = [42.96, 43.06]
abbv = [95.68, 107.44]
amgn = [200.58, 205.9]
abt = [68.42, 71.06]
```

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After running the code cell, **complete the following steps:**

Define a new function called **calculate_return_on_investment**

The function should accept one argument named **price_list**

The function should **return** the result of the following formula**:**

(target_price – current_price) / current_price

Create a list called **companies** that contains **all of the price lists** defined in the **first cell**

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Write a **for loop** that **performs** the **following actions:**

- Iterates through all objects in **companies**
- Applies the **calculate_return_on_investment** function to each object
- Rounds the result of calculation to **3 decimal places**
- **Prints the rounded result** of each calculation

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For Loops Workout

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In your Jupyter Notebook

1. Write a for loop that calculates ROI for each list in the **companies** and appends that ROI to each list

   After this step, each list in companies should contain three objects in the format **[current_price, target_price, roi_calculation]** which you can check by printing each list and comparing to the prior example

2. Create three new empty lists named **current_prices, targets_prices, and roi_calculations**

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3. Write one for loop that iterates through each list in **companies** and performs the following three actions:
   - Append the first object in each list to **current_prices**
   - Append the second object in each list to **target_prices**
   - Append the third object in each list to **roi_calculations**
4. Print **current_prices, target_prices,** and **roi_calculations**

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Taking all of your lists in **companies** and **you're splitting up** those **values**



Putting all your **current prices** together



Putting all your **target prices** together



Putting all your **ROI calculations together**

Conditional Logic Workout

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In your **Jupyter Notebook**

Find the following ROI dictionary containing the **ROI calculations**

```
roi_dict = {
    'jnj' : 0.034,
    'unh' : 0.071,
    'pfe' : 0.002,
    'abbv' : 0.123,
    'amgn' : 0.027,
    'abt' : 0.039
}
```

Execute that cell to define the dictionary

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In your **Jupyter Notebook complete the following steps:**

1. Create three empty lists named **buy_recommendations**, **hold_recommendations**, and **sell_recommendations**

2. **Write a for loop** that cycles through all of the keys in **roi_dict** and completes the following actions:

- If the **ROI** is greater than **10% (0.10)** append the key to **buy_recommendations**
- If the **ROI** is less **than 10% (0.10)** but greater **than 5% (0.05),** append the key to **hold_recommendations**
- If the **ROI** is less than **5% (0.05),** append the key to **sell_recommendations**

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Review

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Learning Objectives

You now know how to:

- Create **custom functions**
- Repeat tasks through iterable objects using **for loops**
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