Module 3 Assignment

Controlling the Flow of Your Code

# Instructions

Create a jupyter notebook called ‘module3\_assignment’ and use it to answer the homework problems below.

## Problem 1

Write a for loop that prints the numbers 0 through 9. You can use the range() function like we did in the lecture.

## Problem 2

Write a for loop that is very similar to problem 1; it will print the numbers 0 through 9. It will also print ‘zero’, ‘even’ or ‘odd’ on each loop, depending on if the number it is printing is ‘zero’, ‘even’, or ‘odd’. For example, on the first loop, it should print 0 and ‘zero’; on the second loop, it should print 1 and ‘odd’; on the third loop, it should print 2 and ‘even’.

Use the modulo operator to test if a number is even. The modulo operator in python is ‘%’. The modulo divides one number by the other and returns the remainder. Here are some examples of using the modulo operator:

### Example 1

|  |
| --- |
| print(4 % 2) # ‘0’ will print because 4 divided by 2 is 2 and the remainder is 0 |

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### Example 2

|  |
| --- |
| print(5 % 2) # ‘1’ will print because 5 divided by 2 is 2 and the remainder is 1 |

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## Problem 3

Create a variable named my\_var with the value 2. Then, write a while loop that multiplies the value of my\_var by a factor of 1.65 on each loop. The while loop will continue while my\_var is less than 100. Then, after the while loop completes, print the value of my\_var.

## Problem 4

For this problem, you will write some code that checks the weight of a package and then determines the price of shipping based on the weight. The weight of the package will be represented by a variable named package\_weight, and the price of shipping is represented by a variable named shipping\_cost. If the package\_weight is less than or equal to 5, the shipping\_cost should be 3; else if the package weight is greater than 5 and less than or equal to 10, the shipping\_cost should be 7, otherwise (if the package is even heavier) the shipping\_cost should be 15.

The first part of your code should look like the following example. Be sure to test your code with different values of package\_weight:

|  |
| --- |
| package\_weight = 1  **if** package\_weight <= 5:  shipping\_cost = 3 |

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## Problem 5

Write a for loop that loops through a list of dictionaries. The code inside the loop will check if the dictionary contains the key ‘name’. If the dictionary does contain the key ‘name’, then the code will print the value of that key.

For example, if the list of dictionaries is the list defined below, the loop would print ‘Fraiser’ and ‘Cindy’.

|  |
| --- |
| person\_1 = {'name': 'Fraiser', 'age': 52} person\_2 = {'name': 'Cindy', 'age': 46} people\_list = [person\_1, person\_2] |

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# How to Turn In The Assignment

Download the notebooks as a Python file (Go to the file menu, in Jupyter notebooks, and choose "Download as…", then choose python to download as a python file) and submit the assignment.