13.37 Collatz (Loops - Medium)

Objective:

Write a Python program that takes a positive integer, *test_int*, and prints the Collatz sequence starting at x.

Description:

A Collatz sequence is obtained by repeatedly applying this rule to the previous number x in the sequence:

$x = x/2$ if x is even
$3x+1$ if x is odd.

Stop when the sequence gets to number 1.

Sample Inputs/Outputs:

```
Example 1:    test_int = 10
Expected Output:    [10, 5, 16, 8, 4, 2, 1]


Example 2:    test_int = 24
Expected Output:    [24, 12, 6, 3, 10, 5, 16, 8, 4, 2, 1]
```

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main.py   Load default template...

```
1  test_int = int(input())
2
3  #Using the value in test_int, write your code below
4  |
```

Run your program as often as you'd like, before submitting for grading. Below, type any needed input values in the first box, then click **Run program** and observe the program's output in the second box.

Enter program input (optional)

If your code requires input values, provide them here.

Run program

Input (from above) →   **main.py**
(Your program) →

Program output displayed here

Coding trail of your work   What is this?

```
History of your effort will appear here once you begin
working on this zyLab.
```

Trouble with lab?