

Problem Overview

Example input: [8, 3, 5, 1]

Target output: 8351

Given a list of digits, construct the integer it represents

Conditions: No casting or string conversion allowed

CodeBase

```
1 # Task 1: Given a list of digits, determine the integer that it represents
2 # TypeError: 'list' object cannot be interpreted as an integer
3
4 # Step1. Make a function
5 def determine_int(x):
6     # Step2. Set variable as local (Inside the function scope)
7     result = 0
8     # Using "for loop" for iteration
9     for number in x:
10         # Step3. Using the math expression:
11         # 8351 => 8, 8 * 10 + 3, 83 * 10 + 5, 835 * 10 + 1
12         result = result * 10 + number
13
14 # Step4. Using "print" function to show value in the Terminal
15 print(result)
16
17 # Test
18 x = [8, 3, 5, 1]
19 determine_int(x)
```

The idea is:

Each digit's value depends on its position

$$\begin{aligned} 0 * 10 + 8 &= 8 \\ 8 * 10 + 3 &= 83 \\ 83 * 10 + 5 &= 835 \\ 835 * 10 + 1 &= 8351 \end{aligned}$$

8
83
835
8351

Start with 0. For each digit, multiply the result by 10 and then add the digit

So, using the Python **"for loop"** (iterative) with **"result"** local variable (accumulate)