# Python Tasks: Lists, Loops, and Tuples

## List Tasks

* Find the sum of all elements in a list.  
  Hint: Use a loop or the sum() function.
* Find the largest and smallest numbers in a list.  
  Hint: Use max() and min() functions.
* Remove duplicates from a list.  
  Hint: Convert the list into a set and back to a list.
* Reverse a list without using reverse().  
  Hint: Use slicing [::-1].
* Merge two lists and sort the result.  
  Hint: Use + to concatenate and sorted() to sort.
* Check if an element exists in a list.  
  Hint: Use the in keyword.
* Find the second largest number in a list.  
  Hint: Use sorted() and access the second last element.
* Find all numbers in a list that are greater than a given number.  
  Hint: Use a loop with an if condition.
* Replace all occurrences of an element in a list with another value.  
  Hint: Use a loop or list comprehension.
* Flatten a nested list.  
  Hint: Use recursion or a loop with extend().

## Loop Tasks

* Print all even numbers from 1 to 50 using a loop.  
  Hint: Use range(start, stop, step).
* Find the factorial of a number using a loop.  
  Hint: Use a for or while loop.
* Check if a number is prime using a loop.  
  Hint: Use a loop to check divisibility from 2 to sqrt(n).
* Generate Fibonacci numbers up to n terms.  
  Hint: Use a loop and update two variables iteratively.
* Count occurrences of each word in a string.  
  Hint: Use a dictionary and loop through words.
* Find common elements in two lists using loops.  
  Hint: Use nested loops or set.intersection().
* Find the sum of digits of a number using a loop.  
  Hint: Use modulus % and division // inside a loop.
* Check if a string is a palindrome using a loop.  
  Hint: Compare first and last characters moving inward.

## Tuple Tasks

* Convert a tuple into a list and modify it.  
  Hint: Use list(tuple\_name) and tuple(list\_name).
* Find the index of a given element in a tuple.  
  Hint: Use the .index() method.