Comprehensive Python Practice Sheet

with Standard Problems + Classic Coding Site Examples

Below is a reorganized Python practice sheet leveled by difficulty for **loops, functions, and exception handling**, with extra problems based on standards from **Hackerrank, Leetcode, and Codewars**. Where relevant, I've named classic or representative problems from these platforms so your sheet is truly universal.

Level 0–20: Basics (Loops, Functions, Try-Except)

- Print numbers from 1 to 10 using a loop.
- Print numbers from 10 down to 1 using a while loop.
- Print a multiplication table (1–10) using nested loops.
- Write a function to return the square of a number.
- Write a function that calculates the sum of the first n numbers using a loop.
- Loop 1–20, skip multiples of 3, break at 15.
- Ask the user to input a number and use try-except to handle if input is not a number.
- Classic: HackerRank: Python Loops — Print squares up to n [1] [2]

Level 21–40: Easy–Medium

- Write a function to sum all numbers in a list using a loop.
- Print all even numbers between 1 and 50 using a loop.
- Write a program that asks the user for two numbers and prints their division. Handle division by zero and invalid inputs with try-except.
- Print characters of a string one per line using a loop.
- Find the maximum number in a list using a loop.
- Classic: Leetcode: Find Numbers with Even Number of Digits [3]

Level 41–60: Medium

- Write a function to check if a number is prime (using loops).
- Write a function to count vowels in a string.
- Function to return only unique elements from a list (no duplicates, using loops).
- Program that asks for user input until valid integer is entered (with try-except).
- Write a function that prints all prime numbers in a given range.
- Count how many times each character appears in a string (dictionary + loop).
- Factor count: Given a number, count all its divisors using a loop.
- Remove all punctuation from a string without regex or replace.
- Classic: Leetcode: Two Sum[4]

Level 61–80: Medium-Hard

- Write a function for factorial using a loop.
- Find the second largest number in a list using a loop.
- Program to read a file (ask for filename) and handle FileNotFoundError with try-except.
- Function to create a dictionary of frequency counts from a list of numbers.
- Matrix addition: Add two matrices element-wise using loops.
- Transpose a matrix using nested loops.
- Least Common Multiple (LCM) function using loops.
- Armstrong number check (see if a given number is Armstrong).
- Classic: Codewars: Bad Exception Handling[5]

Level 81–100: Hard

- Generate the Fibonacci sequence up to n terms using loops.
- Reverse a string input without using built-in reverse functions.
- Find the Greatest Common Divisor (GCD) of two numbers using loops.
- Safely open multiple files from a given list, skip missing files (try-except inside loop).
- Sort a list with bubble sort (loops only, no `sort()`).
- Flatten a nested list using loops.
- Menu-driven program: Loop until "exit", offering basic tasks (e.g., calculator, string ops).
- Find all perfect numbers below a limit.
- Classic: Leetcode: Merge Two Sorted Lists[6]

Level 101+: Very Challenging / Real-World / Interview-Standard

- Solve "FizzBuzz" for 1 to n: Print "FizzBuzz" for multiples of 15, etc.
- Check if a given string is a palindrome (ignore spaces and case, using loops).
- Merge two sorted lists (like merge step in merge sort) using loops only.
- Prompt for user input and convert to integer. Raise custom InvalidInputError on bad input, handle and print friendly message.
- Sudoku row checker: Ensure a 9-element list has unique 1–9.
- Anagram checker: Determine if two strings are anagrams (ignore spaces/cases).
- Implement binary search using loops (no recursion).
- Parse a JSON file from user input, handle both FileNotFoundError and JSONDecodeError (realistic try-except).
- Classic: Leetcode: FizzBuzz, Codewars Exception Handling Kata [7] [8]

How to Use

- Problems scale in difficulty from beginner basics to classic coding interview level.
- For more, browse Python challenges on Hackerrank, Leetcode, or Codewars. [9] [10] [11]
- Each section covers a **standard algorithmic topic** typically expected for school, interviews, or self-study.

This list combines your original questions, standards from famous coding sites, and best-practice additions for a truly complete Python workout!

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1. https://www.hackerrank.com/challenges/python-loops/problem
2. https://www.youtube.com/watch?v=tpjZ7_tkeOY
3. https://github.com/Garvit244/Leetcode
4. https://leetcode.com/problems/two-sum/discuss/1230146/python-practice
5. https://www.codewars.com/kata/5950eec3a100d72be100003f
6. https://leetcode.com/problemset/?search=python
7. https://www.youtube.com/watch?v=btdna5esLsl
8. https://www.codewars.com/kata/586fa9ddc66d18e2e10000ce
9. https://www.hackerrank.com/domains/python
10. https://www.codewars.com/collections/python-practice-1
11. https://leetcode.com/problemset/?language=Python