



# Exercises

2025-01-31

## **I. Task 1: Number Guessing Game**

Write a program where the user has to guess a number between 1 and 100. The program should generate a random number and give hints if the guessed number is too high or too low.

## **II. Task 2: Age in Days**

Write a program that asks the user for their age in years and calculates their approximate age in days. (Assume a year has 365 days; ignore leap years.)

## **III. Task 3 (New): Vowel Counter**

Write a program that asks the user to input a sentence. The program should count and display the number of vowels (a, e, i, o, u) in the sentence.

## **IV. Task 4: Multiplication Table**

Let the user enter a number, and then print the multiplication table for that number up to 10. Example: For input 5, the output should include  $5 \times 1 = 5$ ,  $5 \times 2 = 10$ , etc.

## **V. Task 5: Palindrome Checker**

Write a program that checks if a given word is a palindrome (e.g., “radar” or “level”). Use methods like Reverse on the string to perform the check.

## **VI. Task 6: Shopping List**

Create a program to manage a simple shopping list: The user can add items to the list. Display the list after each addition. Allow the user to save the list to a file.

## **VII. Task 7: Sort Numbers**

Let the user input a list of numbers separated by commas (e.g., 5,2,8,1). Sort the numbers and display them in ascending order.

## **VIII. Task 8: Password Generator**

Write a program to generate a random password with a user-specified length. The password should include letters (uppercase and lowercase), numbers, and special characters.

## **IX. Task 9 (New): FizzBuzz**

Write a program that prints the numbers from 1 to 100. For multiples of 3, print “Fizz” instead of the number, and for multiples of 5, print “Buzz”. For numbers that are multiples of both 3 and 5, print “FizzBuzz”.

## **X. Task 10 (New): Fibonacci Sequence**

Ask the user to input a number  $n$ . The program should calculate and display the first  $n$  numbers in the Fibonacci sequence. (The Fibonacci sequence starts with 0 and 1, and each subsequent number is the sum of the two previous ones.)