~~Day 1: Write a program that prints "Hello World!" to the console.~~   
~~Day 2: Write a program that takes user input and prints it to the console.   
Day 3: Write a program that calculates the sum of two numbers.~~   
~~Day 4: Write a program that calculates the area of a rectangle.   
Day 5: Write a program that determines if a number is even or odd.~~   
Day 6: Write a program that determines if a number is positive or negative.   
Day 7: Write a program that calculates the factorial of a number.  
 Day 8: Write a program that determines if a number is prime or composite.   
Day 9: Write a program that calculates the Fibonacci sequence.   
Day 10: Write a program that generates a random number.   
Day 11: Write a program that sorts an array of numbers.   
Day 12: Write a program that finds the largest and smallest number in an array.   
Day 13: Write a program that reverses a string.   
Day 14: Write a program that counts the number of vowels in a string.   
Day 15: Write a program that checks if a string is a palindrome.   
Day 16: Write a program that calculates the area of a circle.   
Day 17: Write a program that converts Fahrenheit to Celsius.   
Day 18: Write a program that converts Celsius to Fahrenheit.   
Day 19: Write a program that finds the area of a triangle.   
Day 20: Write a program that determines the longest word in a sentence.   
Day 21: Write a program that finds the second largest number in an array.   
Day 22: Write a program that checks if a number is a perfect square.   
Day 23: Write a program that calculates the distance between two points.   
Day 24: Write a program that calculates the slope of a line.   
Day 25: Write a program that calculates the perimeter of a rectangle.   
Day 26: Write a program that calculates the volume of a sphere.   
Day 27: Write a program that checks if a string contains a substring.   
Day 28: Write a program that finds the frequency of a character in a string.   
Day 29: Write a program that determines if a number is a power of two.   
Day 30: Write a program that calculates the median of an array of numbers.   
Day 31: Write a program that finds the largest palindrome in a string.  
Day 32: Write a program that checks if a string is an anagram.   
Day 33: Write a program that calculates the area of a trapezoid.   
Day 34: Write a program that checks if a number is a perfect number.   
Day 35: Write a program that converts a binary number to decimal.  
Day 36: Write a program that converts a decimal number to binary.   
Day 37: Write a program that finds the GCD of two numbers.   
Day 38: Write a program that determines if a number is a Armstrong number.   
Day 39: Write a program that calculates the square root of a number.   
Day 40: Write a program that finds the factorial of a large number using recursion.   
Day 41: Write a program that converts a decimal number to binary using recursion.   
Day 42: Write a program that checks if a number is a prime number using recursion.   
Day 43: Write a program that calculates the sum of digits in a number using recursion.   
Day 44: Write a program that reverses an array using recursion.   
Day 45: Write a program that generates a random number between two given numbers.   
Day 46: Write a program that calculates the area of a pentagon.  
Day 47: Write a program that checks a string exist

Day 48: Write a program that calculates the LCM of two numbers.   
Day 49: Write a program that finds the common elements in two arrays.   
Day 50: Write a program that calculates the average of an array of numbers.  
Day 51: Write a program that determines if a number is a prime number using the Sieve of Eratosthenes algorithm.   
Day 52: Write a program that calculates the area of a cube.   
Day 53: Write a program that finds the first non-repeated character in a string.   
Day 54: Write a program that checks if a number is a perfect cube.   
Day 55: Write a program that calculates the area of a parallelogram.   
Day 56: Write a program that finds the mode of an array of numbers.   
Day 57: Write a program that checks if a string is a valid palindrome, ignoring non-alphanumeric characters.   
Day 58: Write a program that calculates the volume of a cylinder.   
Day 59: Write a program that finds the kth largest element in an array.   
Day 60: Write a program that determines if a number is a Harshad number.   
Day 61: Write a program that finds the prime factors of a number.   
Day 62: Write a program that calculates the area of a rhombus.   
Day 63: Write a program that checks if a number is a perfect number using Euclid's formula.   
Day 64: Write a program that finds the second smallest element in an array.   
Day 65: Write a program that calculates the perimeter of a triangle.   
Day 66: Write a program that checks if a string is a pangram.   
Day 67: Write a program that finds the largest prime factor of a number.   
Day 68: Write a program that determines if a number is a Smith number.   
Day 69: Write a program that calculates the volume of a cone.   
Day 70: Write a program that finds the longest common subsequence of two strings.   
Day 71: Write a program that checks if a number is a narcissistic number.   
Day 72: Write a program that calculates the area of a sector of a circle.   
Day 73: Write a program that finds the closest pair of points in a set of 2D points.   
Day 74: Write a program that checks if a string is a valid email address.   
Day 75: Write a program that finds the prime triplet numbers.   
Day 76: Write a program that calculates the volume of a pyramid.   
Day 77: Write a program that checks if a number is a palindrome number.   
Day 78: Write a program that determines if a number is a happy number.   
Day 79: Write a program that finds the Hamming distance between two strings.   
Day 80: Write a program that calculates the area of a hexagon.   
Day 81: Write a program that checks if a string is a valid URL.   
Day 82: Write a program that determines if a number is a circular prime.   
Day 83: Write a program that finds the shortest path in a weighted graph using Dijkstra's algorithm. Day 84: Write a program that checks if a number is an abundant number.   
Day 85: Write a program that calculates the volume of a torus.   
Day 86: Write a program that finds the first missing positive integer in an array.   
Day 87: Write a program that checks if a number is a Kaprekar number.   
Day 88: Write a program that determines if a number is a palindrome in multiple number bases.   
Day 89: Write a program that calculates the area of an ellipse.   
Day 90: Write a program that finds the longest common prefix of an array of strings.

Day 91: Write a function that takes a string as input and returns the string with all vowels removed.  
Day 92: Write a program that reads a text file and outputs the number of words in the file.  
Day 93: Write a program that generates a random password of length 8 consisting of letters and numbers.  
Day 94: Write a program that takes a list of integers as input and returns the sum of the even numbers in the list.  
Day 95: Write a program that takes a list of strings as input and returns a new list with only the strings that contain the letter 'a'.  
Day 96: Write a program that takes a sentence as input and returns the sentence with the words reversed.  
Day 97: Write a function that takes a list of integers as input and returns a new list with the squares of those numbers.  
Day 98: Write a program that takes a string as input and returns the number of times each letter appears in the string.  
Day 99: Write a program that takes a list of numbers as input and returns the product of the numbers.  
Day 100: Write a program that reads a CSV file and outputs the data as a JSON object.