Assignment

Week 1: Basics - Variables, Data Types, Input/Output, Loops, Conditionals

1. Write a Python program to swap two variables.
2. Take user input and display it back to the user.
3. Write a program to check if a number is even or odd.
4. Create a program that prints the multiplication table of a given number.
5. Write a program to find the largest of three numbers.
6. Convert temperature from Celsius to Fahrenheit.
7. Write a program to calculate the factorial of a number using a loop.
8. Create a program to count the number of vowels in a string.
9. Write a Python script to reverse a given string.
10. Check if a number is a palindrome.
11. Write a program to find the sum of first N natural numbers.
12. Create a number guessing game.
13. Write a program to print all prime numbers between 1 and 100.
14. Check if a given year is a leap year or not.
15. Create a program to print the Fibonacci series up to N terms.
16. Write a program to find the GCD of two numbers.
17. Write a program to find the LCM of two numbers.
18. Check whether a character is a vowel or consonant.
19. Write a program to calculate the sum of digits of a number.
20. Create a program to find the second largest number in a list.
21. Write a program to count the number of digits in an integer.
22. Create a program to print all Armstrong numbers between 1 to 1000.
23. Write a Python program to print a pattern of stars in a triangle.
24. Create a calculator app using if-else.
25. Write a program to display the ASCII value of a character.
26. Convert a decimal number to binary using loops.
27. Create a program to find the square root of a number.
28. Write a program to find the sum of all even numbers in a list.
29. Create a program to check whether a number is prime or not.
30. Write a program to display the cube of the number up to an integer.

Assignment

Week 2: Functions, Lists, Tuples, Dictionaries, Sets
1. Write a function to check if a number is even.
2. Create a list and find the sum of all its elements.
3. Write a program to find the maximum and minimum in a list.
4. Create a program that removes duplicates from a list.
5. Write a function to reverse a list.
6. Create a tuple and access its elements.
7. Convert a list into a tuple and vice versa.
8. Write a program to merge two dictionaries.
9. Write a function to count the frequency of elements in a list.
10. Create a dictionary of squares of numbers from 1 to 10.
11. Write a program to sort a list in ascending order.
12. Create a program to check if a key exists in a dictionary.
13. Create a set and perform union, intersection, and difference.
14. Write a function to find common elements in two lists.
15. Write a function that returns the factorial of a number.
16. Create a function that checks whether a string is a palindrome.
17. Write a function to count vowels in a string.
18. Create a dictionary and iterate over its keys and values.
19. Write a function to remove all punctuation from a string.
20. Write a function to capitalize the first letter of each word in a string.
21. Create a list comprehension to get squares of all even numbers in a range.
22. Write a function to check if a string is an anagram.
23. Create a nested dictionary to represent student records.
24. Write a function to flatten a nested list.
25. Write a program to find the second highest number in a list.
26. Create a function to rotate a list left by k positions.
27. Write a function to find the missing number from a list of 1 to N.
28. Write a program to remove all None values from a list.
29. Write a function to merge two dictionaries and handle key collisions by summing values.
30. Create a function to find unique elements present in only one of two lists.

Week 3: File Handling, Error Handling, Modules, Comprehensions

Q1. Write a Python script to read a file and print its contents.

Q2. Create a file and write your name into it.

Q3. Handle a

ZeroDivisionError using try-except.

Q4. Write a program to handle file not found error.

Q5. Create a module with a function and import it in another file.

Q6. Use a list comprehension to filter even numbers from a list.

Q7. Write a generator that yields even numbers up to N.

Q8. Create a program to count lines and words in a file.

Q9. Write a program to read a CSV file and print its contents.

Q10. Handle multiple exceptions in a single try block.

Assignment

Week 4: OOPs Concepts + Solve 50-100 Logic Building Problems

Q1. Write a Python program to check if a string has all unique characters.

Q2. Create a program that removes all duplicate characters from a string.

Q3. Write a script to count the frequency of each character in a string.

Q4. Write a program that accepts a sentence and calculates the number of upper and lower case letters.

Q5. Create a program to find the longest word in a sentence.

Q6. Write a program that takes a string and returns the string in reverse order without using [::-1].

Q7. Create a Python function to check if a string is a pangram.

Q8. Write a Python script to sort words in a sentence alphabetically.

Q9. Write a program to check if two strings are anagrams.

Q10. Write a Python program to capitalize the first letter of each word in a sentence.

Q11. Create a program that extracts numbers from a string and returns their sum.

Q12. Write a program to replace all spaces in a string with underscores.

Q13. Write a function to count how many times a substring appears in a string.

Q14. Write a script to convert a string into title case without using .title().

Q15. Write a Python program to merge two dictionaries into one.

Q16. Create a program to filter out all non-alphabetic characters from a string.

Q17. Write a function that returns True if a string ends with a given suffix.

Q18. Create a program that counts words, characters, and lines in a paragraph.

Q19. Write a script to encode a string using Caesar cipher (shift=3).

Q20. Write a program that accepts a string and counts vowels and consonants.

Q21. Create a script to convert binary string to decimal.

Q22. Write a program to count the number of words starting with a vowel in a string.

Q23. Create a script that takes a sentence and removes all stop words.

Q24. Write a Python program to split a sentence into words and reverse each word.

Q25. Write a function that returns a new string made of every third character of the original string.

Q26. Write a program to find all palindromic substrings in a string.

Q27. Write a function that compresses a string using run-length encoding.

Q28. Write a Python program to count the frequency of each word in a file.

Q29. Write a script that extracts hashtags from a tweet.

Q30. Write a function to remove punctuation from a string.

Q31. Create a program that finds the first non-repeating character in a string.

Q32. Write a script that converts camelCase to snake_case.

Q33. Write a function to generate acronyms from a sentence.

Q34. Write a script to check if a file contains a specific word.

Q35. Write a Python program to find and replace text in a file.

Q36. Write a script that checks if all characters in a string are digits.

Q37. Write a program to calculate the average word length in a sentence.

Q38. Create a function that removes all HTML tags from a string.

Q39. Write a program to parse a date string and display it in a different format.

Q40. Write a script that finds all email addresses in a given text.

Q41. Write a program that counts the occurrence of each vowel in a paragraph.

Q42. Create a function that validates an email address format.

Q43. Write a script to check if a string is a valid URL.

Q44. Write a program that extracts all integers from a given text.

Q45. Create a script to find duplicate words in a paragraph.

Q46. Write a program that converts a sentence to Pig Latin.

Q47. Write a script that finds the longest sentence in a paragraph.

Q48. Write a Python program to read a file and display all lines that contain a given keyword.

Q49. Write a script to clean a text file by removing extra spaces and blank lines.

Q50. Write a Python program to count how many sentences are in a paragraph.