

PYTHON CHALLENGE 2

1. Read and Print the Contents of a Text File
2. Count the Number of Lines, Words, and Characters in a Text File
3. Search for a String in a Text File
4. Merge Multiple Text Files into One
5. Implement a program that reads a text file and counts the occurrences of each word, ignoring case sensitivity.
6. Write a Python function that takes a list of strings as input and returns a new list with the strings sorted in descending order of their lengths.
7. Write a function that takes a list of numbers as input and returns the second-largest number.
8. Write a Python program that takes a list of integers as input and returns a new list with only the numbers that are prime.
9. Write a Python function that takes a list of integers as input and returns a new list with only the numbers that are perfect squares.
10. Write a Python function that takes a list of numbers as input and returns the sum of all the numbers divisible by 3 or 5.
11. Write a Python function called `calculate_discounted_price` that takes the original price of an item and a discount percentage as input. The function should return the discounted price after applying the discount. Ensure that the function handles the case where the discount percentage is negative and raises a custom exception called `InvalidDiscountError` with an appropriate error message.
12. Write a function that takes a sentence as input and returns a new sentence with the words reversed, while keeping the order of the words in the sentence.
13. Implement a program that simulates a basic calculator, allowing users to perform arithmetic operations (addition, subtraction, multiplication, division) on two numbers.
14. Create a class named `Notes` for handling text-based file operations. Class should contain methods `"write"`, `"read"` and then `"append"` as instance methods or class methods. (Can contain any other methods if you wish) Use a single file for saving the notes. You can set the file name as a constant somewhere in the program (Or as a class variable). `write` method should

create the if it doesn't exist, Then it should overwrite the older contents with the user input if the user plans to overwrite the file. read method should read the whole file contents and return it. If the file doesn't exist, then it should return "No notes found" append method should take the user input value and it must add the value to the end of the file. It must not overwrite the file. Now create a program to utilize this class.

The program should repeatedly ask the user for these 4 choices :

- 1 - Write Note (Overwrite existing).
- 2 - Add more Notes (Append).
- 3 - Read Notes.
- 4 – Exit

15. Copy odd lines of one file to another file in Python
16. Count the total number of uppercase characters in a file in Python
17. Python program to delay printing of line from a file using sleep function
18. Python program to for student height record for a school using Class and Objects.
19. Write program for building restaurant menu using class in Python.
20. Create a Python library with the function to input the values with expectation handling and demonstrate with the example.
21. Write a Python program that executes an operation on a list and handles an IndexError exception if the index is out of range.
22. Write a Python program input and add two integers only and handle the exceptions.

RUN 1:

Enter First Value: 10
Enter Second Value: 20
0.5

RUN 2:

Enter First Value: 10
Enter Second Value: Hello
Pls Input Integer Only invalid literal for int() with base 10: 'Hello'

RUN 3:

Enter First Value: 10
Enter Second Value: 0

Second Number Should Not Be Zero division by zero

23. The program takes input from the user and checks if whether the input value is an integer or not, if the input value is not an integer then the program will through a Type exception.

Run 1:

Enter First Number: 43

43

Run 2:

Enter First Number: 123.1

Invalid Input..Please Input Integer Only..

Enter First Number: 43

43

24. Implement the game rock, paper, scissors

Rock smashes scissors.

Paper covers rock.

Scissors cut paper.

25. Quiz Game in Python