

Python Assignment 4

All topics included

Submit on: 27 nov 2023

1. Write a Python program that prompts the user to input an integer and raises a `ValueError` exception if the input is not a valid integer.
2. Write a Python program that executes an operation on a list and handles an `IndexError` exception if the index is out of range.
3. Write a Python program to count the number of strings from a given list of strings. The string length is 2 or more and the first and last characters are the same.
Sample List : ['abc', 'xyz', 'aba', '1221']
Expected Result : 2
4. Write a Python program to create a symmetric difference.
5. Write a Python program that executes an operation on a list and handles an `IndexError` exception if the index is out of range.
6. Write a Python program to replace the last value of tuples in a list.
Sample list: [(10, 20, 40), (40, 50, 60), (70, 80, 90)]
Expected Output: [(10, 20, 100), (40, 50, 100), (70, 80, 100)]
7. Write a Python program to remove an empty tuple(s) from a list of tuples.
Sample data: [(), (), (''), ('a', 'b'), ('a', 'b', 'c'), ('d')]
Expected output: [('',), ('a', 'b'), ('a', 'b', 'c'), 'd']
8. Write a Python program to count the number of characters (character frequency) in a string.
Sample String : google.com'
Expected Result : {'g': 2, 'o': 3, 'l': 1, 'e': 1, '.': 1, 'c': 1, 'm': 1}
9. Write a Python program that creates a list of names and uses the filter function to extract names that start with a vowel (A, E, I, O, U).
10. Write a Python program that creates a list of dictionaries containing student information (name, age, grade) and uses the filter function to extract students with a grade greater than or equal to 95.

Sample input: `students = [`

```
    {"name": "Denis Helio", "age": 17, "grade": 97},  
    {"name": "Hania Mehtap", "age": 16, "grade": 92},  
    {"name": "Kelan Stasys", "age": 17, "grade": 90},  
    {"name": "Velvet Mirko", "age": 16, "grade": 94},  
    {"name": "Delores Aeneas", "age": 17, "grade": 100},
```

