

Exceptional Handling Assignment 1

25 September 2024

1. Write a Python program that prompts the user to input two numbers and raises a `TypeError` exception if the inputs are not numerical and handle that exception by giving any message.
2. Write a Python program that prompts the user to input a number and handles a `KeyboardInterrupt` exception if the user cancels the input.
3. Create a calculator that supports addition, subtraction, multiplication, and division. Use exception handling for invalid operators, numbers, and division by zero with custom error messages.
4. Write a Python program to create a dictionary of students and their marks. Ask for a student's name and display their marks. Handle exceptions for missing students and invalid input.
5. Create a banking system with deposit, withdraw, and balance check features. Handle exceptions for invalid amounts, negative transactions, and withdrawals beyond the balance.

6. Create user authentication system where wrong credentials raise an exception. Confirm whether the login process is always completed, regardless of success.
7. Write a Python program that checks if a number is prime. Raise an exception if the input is not a positive integer, and always confirm that the check is complete
8. Write a Python program to validate a password. Raise an exception if the password doesn't meet length or character type requirements, and always confirm whether the password validation process was attempted.
9. Write a Python program that simulates adding items to a shopping cart. If an item is out of stock, raise an exception. Ensure the program always completes the checkout process, even if some items are unavailable.
10. Write a Python program to calculate the square root of a number. If the input is negative, raise an exception. Ensure the program always confirms that the calculation has been attempted.