

Obtain various errors occurs in the python programing and create exception handling program

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In [1]: try:
        num = int(input("Enter a number: "))
        print("The square of the number is:", num ** 2)
    except ValueError:
        print("Please enter a valid integer.")

    # Example 2: Handling ZeroDivisionError
    try:
        dividend = float(input("Enter the dividend: "))
        divisor = float(input("Enter the divisor: "))

        result = dividend / divisor
        print("Result of division:", result)
    except ZeroDivisionError:
        print("Cannot divide by zero.")

    # Example 3: Handling IndexError
    try:
        my_list = [1, 2, 3]
        index = int(input("Enter an index: "))

        value = my_list[index]
        print("Value at index", index, "is:", value)
    except IndexError:
        print("Index out of range.")

    # Example 4: Using a generic except block
    try:
        user_input = input("Enter something: ")
        print("You entered:", user_input)
        # Simulating an intentional error
        result = 10 / 0
    except Exception as e:
        print("An error occurred:", e)
```

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Enter a number: 10
The square of the number is: 100
Enter the dividend: 35
Enter the divisor: 5
Result of division: 7.0
Enter an index: 2
Value at index 2 is: 3
Enter something: 43
You entered: 43
An error occurred: division by zero
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