ERROR HANDLING

Error Handling:

- process of anticipating, catching, and managing errors that occur during program execution

```python
3    # Basic exception handling
4    try:
5        number = int(input("Enter a number: "))
6        result = 10 / number
7        print(f"Result: {result}")
8    except ValueError:
9        print("Invalid input! Please enter a number.")
10   except ZeroDivisionError:
11       print("Cannot divide by zero!")
```

```python
27   # Using else and finally
28   try:
29       file = open("data.txt", "r")
30   except FileNotFoundError:
31       print("File not found!")
32   else:
33       # Executes if no exception occurred
34       content = file.read()
35       print("File read successfully")
36   finally:
37       # Always executes
38       if 'file' in locals() and not file.closed:
39           file.close()
40       print("Cleanup completed")
```

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```python
42    # Raising exceptions
43    def validate_age(age):
44        if age < 0:
45            raise ValueError("Age cannot be negative")
46        if age > 150:
47            raise ValueError("Age seems unrealistic")
48        return True
49
50    try:
51        validate_age(-5)
52    except ValueError as e:
53        print(f"Validation error: {e}")
```