def arithmetic\_operations(num1, num2):

try:

print(f"Addition: {num1} + {num2} = {num1 + num2}")

print(f"Subtraction: {num1} - {num2} = {num1 - num2}")

print(f"Multiplication: {num1} \* {num2} = {num1 \* num2}")

# Handle division and modulus by zero

if num2 != 0:

print(f"Division: {num1} / {num2} = {num1 / num2}")

print(f"Modulus: {num1} % {num2} = {num1 % num2}")

else:

print("Division and modulus by zero are not defined.")

print(f"Exponent: {num1} \*\* {num2} = {num1 \*\* num2}")

except Exception as e:

print(f"An error occurred: {e}")

# Example usage

int\_num1 = 10 # int

int\_num2 = 3 # int

float\_num1 = 10.5 # float

float\_num2 = 2.5 # float

complex\_num1 = 2 + 3j # complex

complex\_num2 = 1 + 4j # complex

print("Integer Operations:")

arithmetic\_operations(int\_num1, int\_num2)

print("\nFloat Operations:")

arithmetic\_operations(float\_num1, float\_num2)

print("\nComplex Operations:")

arithmetic\_operations(complex\_num1, complex\_num2)

# Variable Assignment

num1 = 25000000 # Without underscores

num2 = 25\_000\_000 # With underscores

print("\nVariable Assignment:")

print(num1)

print(num2)

# Creating variables and checking types

int\_var = 10 # Integer

float\_var = 10.5 # Float

complex\_var = 2 + 3j # Complex

print("\nType Checking:")

print(f"int\_var: {int\_var}, Type: {type(int\_var)}")

print(f"float\_var: {float\_var}, Type: {type(float\_var)}")

print(f"complex\_var: {complex\_var}, Type: {type(complex\_var)}")