# Function to get two numbers from the user

def getNumbers():

num1 = float(input("Enter the first number: "))

num2 = float(input("Enter the second number: "))

return [num1, num2]

# Validation function to ensure valid input

def validateNumbers():

while True:

try:

numbers = getNumbers()

break

except ValueError:

print("Invalid input. Please enter valid numbers.")

return numbers

# Display information based on input numbers

def displayNumbers(num1, num2):

# First set of conditions

if num1 > 0 and num2 > 0:

print("2 positive numbers")

elif num1 < 0 and num2 < 0:

print("2 negative numbers")

elif num1 > 0 and num2 < 0:

print(f"num1 is positive, num2 is negative")

elif num1 < 0 and num2 > 0:

print(f"num1 is negative, num2 is positive")

else:

print(f"Numbers have different signs: {num1}, {num2}")

# Second set of conditions

if num1 > 0 or num2 > 0:

print("JUST One number is positive")

elif num1 < 0 or num2 < 0:

print("JUST One number is negative")

else:

print(f"Both numbers are zero")

# Arithmetic operations

addition\_result = num1 + num2

subtraction\_result = num1 - num2

multiplication\_result = num1 \* num2

try:

division\_result = num1 / num2

print(f"Division result: {division\_result}")

except ZeroDivisionError:

print("Cannot divide by zero.")

print(f"Addition result: {addition\_result}")

print(f"Subtraction result: {subtraction\_result}")

print(f"Multiplication result: {multiplication\_result}")

# Main program execution

if \_\_name\_\_ == "\_\_main\_\_":

# Get and validate numbers

numbers = validateNumbers()

# Display information and perform arithmetic operations

displayNumbers(\*numbers)