import math

# Define calculator functions

def addition(x, y):

return x + y

def subtraction(x, y):

return x - y

def multiplication(x, y):

return x \* y

def division(x, y):

if y == 0:

return "Error! Division by zero."

else:

return x / y

def exponentiation(x, y):

return x \*\* y

def square\_root(x):

if x < 0:

return "Error! Cannot calculate square root of a negative number."

else:

return math.sqrt(x)

# Print menu

print("Select operation:")

print("1. Addition")

print("2. Subtraction")

print("3. Multiplication")

print("4. Division")

print("5. Exponentiation")

print("6. Square Root")

print("7. Exit")

# Start the loop

choice = input("Enter your choice (1/2/3/4/5/6/7): ")

while choice != '7': # Continue loop until user chooses to exit

if choice in ('1', '2', '3', '4', '5'):

num1 = int(input("Enter first number: "))

num2 = int(input("Enter second number: "))

if choice == '1':

print("output:", addition(num1, num2))

elif choice == '2':

print("output:", subtraction(num1, num2))

elif choice == '3':

print("output:", multiplication(num1, num2))

elif choice == '4':

print("output:", division(num1, num2))

elif choice == '5':

print("output:", exponentiation(num1, num2))

elif choice == '6':

num = float(input("Enter a number: "))

print("output:", square\_root(num))

else:

print("wrong input")

choice = input("Enter choice (1/2/3/4/5/6/7): ") # Prompt user for next choice

print("calculator") # Exit message