**PYTHON DEVELOPER TASK-1**

**PROJECT TITLE: TEXT CALCULATOR**

**PROGRAM:**

import re

def calculate(expression):

"""

Evaluates a basic arithmetic expression and returns the result.

:param expression: A string containing the arithmetic expression.

:return: The result of the calculation or an error message.

"""

try:

# Use eval safely by restricting built-in functions

result = eval(expression, {"\_\_builtins\_\_": {}}, {})

if isinstance(result, (int, float)):

return result

else:

raise ValueError("Invalid operation.")

except ZeroDivisionError:

return "Error: Division by zero is not allowed."

except Exception as e:

return f"Error: Invalid input. Details: {e}"

def main():

"""

Main function to run the calculator program.

"""

print("Welcome to the Text-Based Calculator!")

print("You can perform basic operations: addition (+), subtraction (-), multiplication (\*), division (/).")

print("Type 'exit' to quit the calculator.\n")

while True:

# Get user input

user\_input = input("Enter an expression: ").strip()

if user\_input.lower() == "exit":

print("Goodbye!")

break

# Validate and calculate

if re.match(r'^[0-9+\-\*/().\s]+$', user\_input):

result = calculate(user\_input)

print(f"Result: {result}")

else:

print("Error: Invalid input. Please use numbers and valid operators (+, -, \*, /).")

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

main()

**OUTPUT:**

Welcome to the Text-Based Calculator!

You can perform basic operations: addition (+), subtraction (-), multiplication (\*), division (/).

Type 'exit' to quit the calculator.

Enter an expression: 10+10

Result: 20

Enter an expression: 20-2

Result: 18

Enter an expression: 30\*2

Result: 60

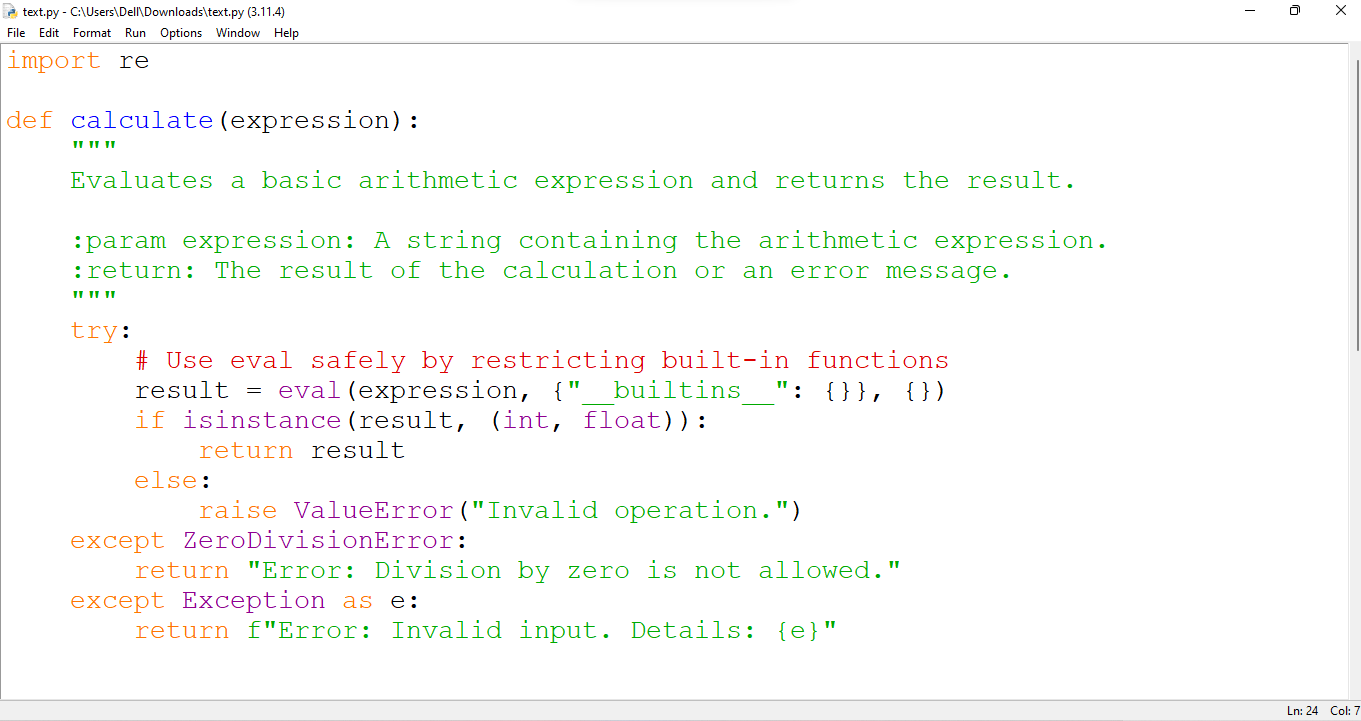
Enter an expression: 40/2

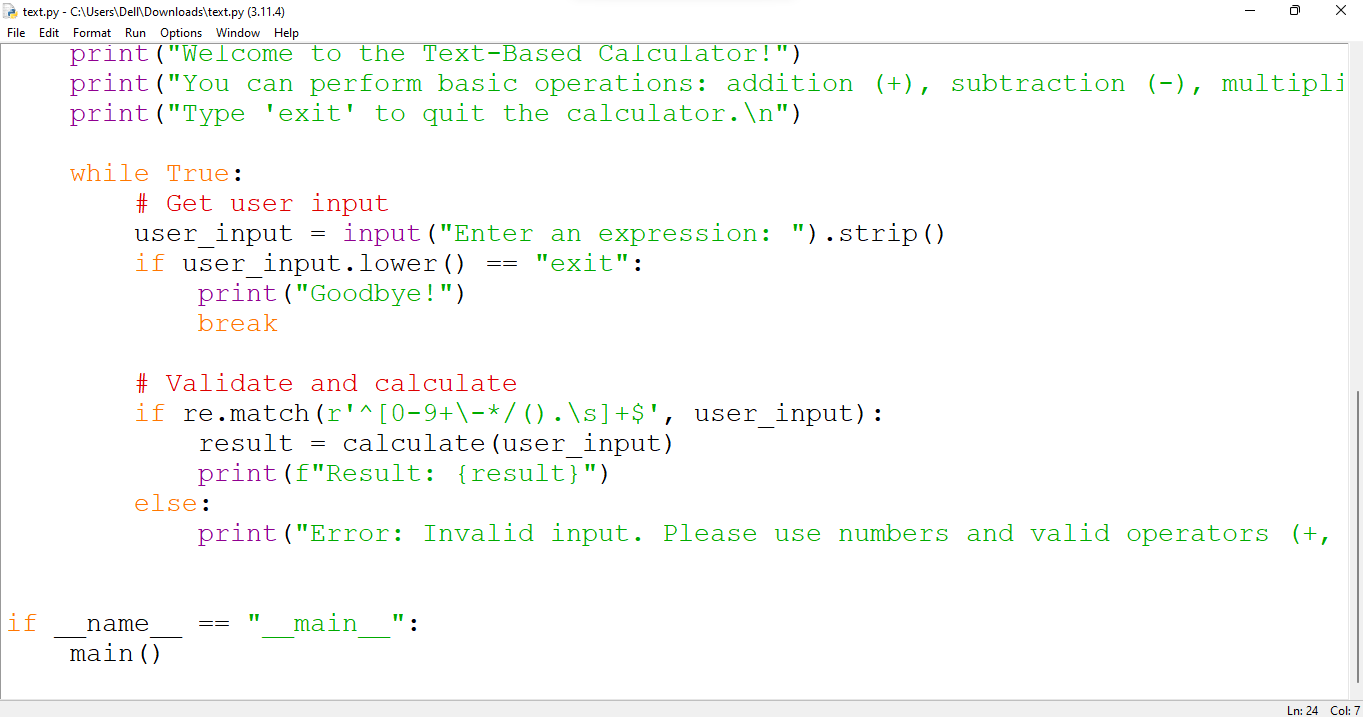
Result: 20.0

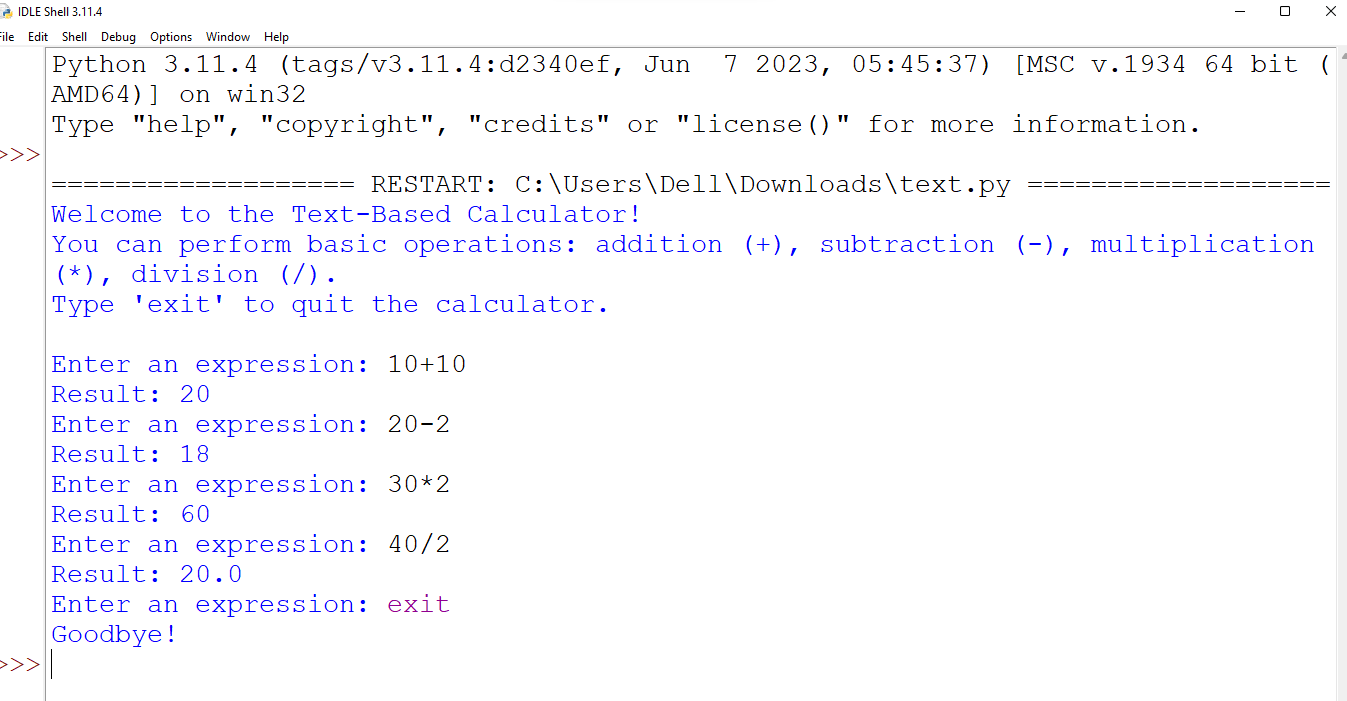
Enter an expression: exit

Goodbye!

**SCREENSHOTS:**

****

****

****