**Dynamic Calculator**

This program is a simple dynamic calculator that can solve mathematical expressions. It supports addition, subtraction, multiplication, and division. The calculator also understands brackets and follows the correct DMAS (Division, Multiplication, Addition, Subtraction) rules.

■ The Code:

print("=== Calculator for Custom Symbols (× and ÷) ===")

print("Type 'quit' to exit.")

while True:

expression = input("Enter expression: ")

if

expression.lower() == "quit":

print("Goodbye!")

break

try:

expression = expression.replace("×", "\*").replace("÷", "/")

import re

expression = re.sub(r"(\d)\(", r"\1\*((", expression)

result = eval(expression)

print("Result:", result)

except:

print("Error: Please enter a valid expression.")

**■ Explanation**

The first two lines merely print a welcome message so the user recognizes they are working in a calculator. It also tells them that 'quit' can be typed to end the program.

Then we employ a loop. This loop continues running so that the user can input several expressions successively without having to restart the program.

Within the loop, the program initially prompts the user whether they have entered 'quit'. If so, it outputs 'Goodbye!' and terminates execution.

If the user typed a math expression, the computer gets it ready for calculation. Since users may type ÷ and ×, the computer substitutes these characters for \* and /, which Python reads.

There is also a little trick with brackets. Under normal circumstances, if one types 2(3+4), Python will not comprehend it. The computer programs automatically change it to 2\*(3+4), so it will work properly.

Once the expression is prepared, eval() is used by the program to evaluate it. This method accepts the expression in string form and computes the result.

**Example Run**

=== Custom Symbol Calculator (× and ÷) === Type 'quit' to quit.

Enter expression: 2×(5+3)÷4

Result: 4.0

Enter expression: 1+2×3(4-5÷4)-(3÷5)

Result: 6.4

Type expression: quit Goodbye!