

# Mini Project-Calculator Application

October 21, 2024

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[1]: # Calculator functions
def addition(num1, num2):
    return num1 + num2

def subtraction(num1, num2):
    return num1 - num2

def multiplication(num1, num2):
    return num1 * num2

def division(num1, num2):
    if num2 == 0:
        return "Error: Division by zero is not allowed."
    return num1 / num2

# Input validation function
def validate_input(prompt):
    while True:
        try:
            value = float(input(prompt))
            return value
        except ValueError:
            print("Invalid input. Please enter a valid number.")

# Main calculator function
def calculator():
    print("Welcome to the simple command-line calculator!")

    while True:
        print("\nPlease select an operation:")
        print("1. Addition")
        print("2. Subtraction")
        print("3. Multiplication")
        print("4. Division")
        print("5. Exit")

        choice = input("Enter choice (1/2/3/4/5): ")
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if choice == '5':
    print("Exiting the calculator. Goodbye!")
    break

if choice in ['1', '2', '3', '4']:
    # Get user inputs for numbers
    num1 = validate_input("Enter the first number: ")
    num2 = validate_input("Enter the second number: ")

    # Perform the selected operation
    if choice == '1':
        result = addition(num1, num2)
        print(f"The result of addition: {num1} + {num2} = {result}")
    elif choice == '2':
        result = subtraction(num1, num2)
        print(f"The result of subtraction: {num1} - {num2} = {result}")
    elif choice == '3':
        result = multiplication(num1, num2)
        print(f"The result of multiplication: {num1} * {num2} = {result}")
    elif choice == '4':
        result = division(num1, num2)
        print(f"The result of division: {num1} / {num2} = {result}")
    else:
        print("Invalid choice. Please select a valid operation.")

# Run the calculator
if __name__ == "__main__":
    calculator()

```

Welcome to the simple command-line calculator!

Please select an operation:

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Exit

Enter choice (1/2/3/4/5): 1

Enter the first number: 22

Enter the second number: 86

The result of addition: 22.0 + 86.0 = 108.0

Please select an operation:

1. Addition

2. Subtraction
3. Multiplication
4. Division
5. Exit

Enter choice (1/2/3/4/5): 2  
Enter the first number: 787  
Enter the second number: 958

The result of subtraction:  $787.0 - 958.0 = -171.0$

Please select an operation:

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Exit

Enter choice (1/2/3/4/5): 3  
Enter the first number: 75  
Enter the second number: 12

The result of multiplication:  $75.0 * 12.0 = 900.0$

Please select an operation:

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Exit

Enter choice (1/2/3/4/5): 4  
Enter the first number: 758  
Enter the second number: 52

The result of division:  $758.0 / 52.0 = 14.576923076923077$

Please select an operation:

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Exit

Enter choice (1/2/3/4/5): 5

Exiting the calculator. Goodbye!

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