Project Report

Project Title: Basic Calculator using Python

1. Introduction

This project demonstrates the creation of a simple menu-driven calculator using Python. It performs basic arithmetic operations like addition, subtraction, multiplication, and division.

2. Technologies and Tools Used

Component	Description
Language	Python 3.x
IDE	Any (VSCode, PyCharm, IDLE, etc.)
OS	Platform Independent

3. Setup Instructions

- Install Python from: https://www.python.org

4. Project Description

This calculator allows the user to choose from four basic operations. Based on the user's input, it performs the selected operation using defined functions.

Script (calculator.py):

```
def addition(a, b):
'
   return a + b

'
def subtraction(a, b):
'
   return a - b

'
def multiplication(a, b):
'
   return a * b

'
def division(a, b):
```

```
'
    return a / b if b != 0 else "Error: Division by zero"

'
print("Choose an operation:")
'
print("1. Addition")
'
print("2. Subtraction")
'
print("3. Multiplication")
'
print("4. Division")

'
choice = input("Input your choice (1/2/3/4): ")

'
if choice in ('1', '2', '3', '4'):
'
    num_one = float(input("Enter first number: "))
'
    num_two = float(input("Enter second number: "))

'
    if choice == '1':
'
        print("Result:", addition(num_one, num_two))
'
    elif choice == '2':
'
        print("Result:", subtraction(num_one, num_two))
'
    elif choice == '3':
'
        print("Result:", multiplication(num_one, num_two))
'
    elif choice == '4':
'
        print("Result:", division(num_one, num_two))
'
else:
```

'

print("Invalid choice! Please select a valid operation.")

5. Sample Output

Choose an operation:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Input your choice (1/2/3/4): 3
Enter first number: 5
Enter second number: 6
Result: 30.0

6. Applications

- Educational purposes
- CLI-based calculator
- Foundation for advanced calculator or GUI version

7. Conclusion

This simple calculator project strengthens the fundamentals of function-based programming and user input handling in Python.