



Lyceum of the Philippines University
College of Engineering, Computer Studies and Architecture
Department of Computer Studies



DCSN03C- PROGRAMMING LANGUAGES

AY 2023-2024

Name: **Jaco, Tyrone Joshua C.**

Section: **CS 301**

Problem:

Activity: "Interactive Calculator"

Objective: To create a simple interactive calculator program using basic Python syntax, variables, user input, and conditional statements.

Instructions:

1. Concepts to Apply:

- Variables and data types (integers, floats)
- Input and output operations
- Conditional statements (if, elif, else)

2. Task Description:

- Participants are tasked with creating a Python program that acts as an interactive calculator.
- The calculator should:
 - Prompt the user to enter two numbers.
 - Display a menu of basic operations (addition, subtraction, multiplication, division).
 - Based on the user's choice, perform the selected operation and display the result.

Example Output:

Welcome to the Interactive Calculator!

Enter the first number: 5

Enter the second number: 3

Menu:

1. Addition

2. Subtraction

3. Multiplication

4. Division

Enter your choice (1-4): 2

Result: 5 - 3 = 2

Guidance:

- Students should use variables to store user input and results.
- Utilize the `input()` function to receive user input and `print()` to display the menu and results.
- Implement conditional statements to perform the selected operation based on the user's choice.
- Students should test their calculator with various input values.

Solution (Program Code)

Function to perform addition

def addition(num1, num2):

return num1 + num2

Function to perform subtraction

def subtraction(num1, num2):

return num1 - num2

Function to perform multiplication

def multiplication(num1, num2):

return num1 * num2

Function to perform division

def division(num1, num2):

if num2 == 0:

return "Error! Division by zero."

else:

return num1 / num2

Main function

def main():

print("Welcome to the Interactive Calculator!")

while True:

Getting user input for two numbers

```
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Displaying the menu
print("Menu:")
print("1. Addition")
print("2. Subtraction")
print("3. Multiplication")
print("4. Division")

# Getting user choice
choice = int(input("Enter your choice (1-4): "))

# Performing the operation based on the user's choice
if choice == 1:
    print(f"Result: {num1} + {num2} = {addition(num1, num2)}")
elif choice == 2:
    print(f"Result: {num1} - {num2} = {subtraction(num1, num2)}")
elif choice == 3:
    print(f"Result: {num1} * {num2} = {multiplication(num1, num2)}")
elif choice == 4:
    print(f"Result: {num1} / {num2} = {division(num1, num2)}")
else:
    print("Invalid choice!")

# Asking the user if they want to try again
```

```
try_again = input("Would you like to try again? (yes/no): ")
```

```
if try_again.lower() != 'yes':
```

```
    print("Thank you for using the calculator!")
```

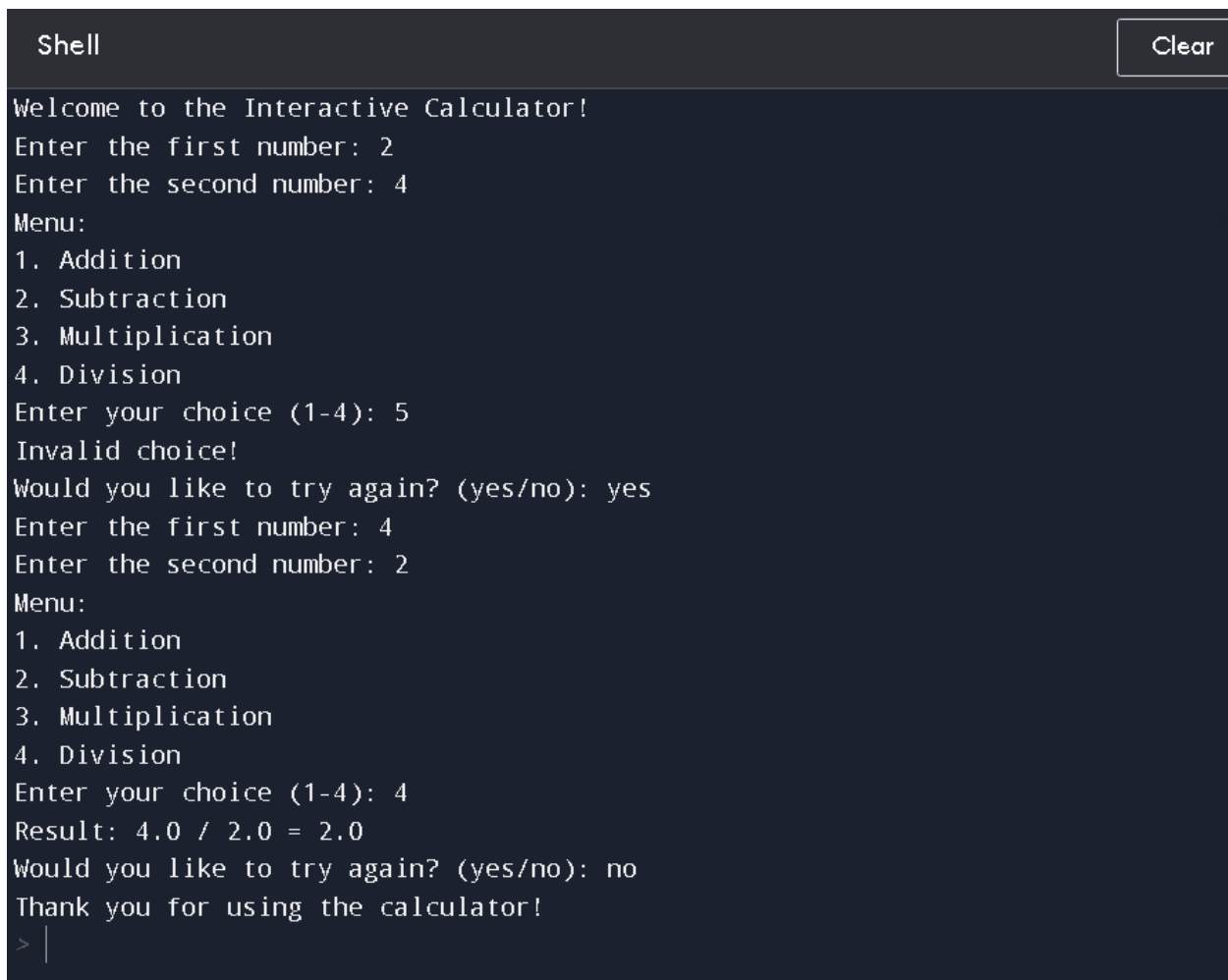
```
    break
```

```
# Calling the main function
```

```
if __name__ == "__main__":
```

```
    main()
```

Sample Screenshot of Program Output



```
Shell Clear
Welcome to the Interactive Calculator!
Enter the first number: 2
Enter the second number: 4
Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Enter your choice (1-4): 5
Invalid choice!
Would you like to try again? (yes/no): yes
Enter the first number: 4
Enter the second number: 2
Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Enter your choice (1-4): 4
Result: 4.0 / 2.0 = 2.0
Would you like to try again? (yes/no): no
Thank you for using the calculator!
> |
```