Name: SAMRA NAZ

InternID: TN/IN01/PY/008

Email ID: naazsamra01@gmail.com

Internship Domain: python

Task week : 3

Instructor Name: Hassan ALI

TASK 1

Description

This Python program is a simple **calculator** that:

- Accepts **two numbers** and an **operator** from the user (`+`, `-`, `*`, `/`, `%`, `//`)
- Performs the selected **arithmetic operation**
- **Safely handles division/modulus/floor division by zero** by checking before calculation
- Displays the **result** clearly
- Shows an error message if the user enters an **invalid operator**

Program

```python
# Step 1: Get user input
num1 = float(input("Enter the first number: "))
operator = input("Enter the operator (+, -, *, /, %, //): ")
num2 = float(input("Enter the second number: "))

# Step 2: Perform operation based on the operator
if operator == '+':
    result = num1 + num2
    print(f"Result: {num1} + {num2} = {result}")

elif operator == '-':
    result = num1 - num2
    print(f"Result: {num1} - {num2} = {result}")

elif operator == '*':
    result = num1 * num2
    print(f"Result: {num1} * {num2} = {result}")

elif operator == '/':
    if num2 == 0:
        print("Error: Division by zero is not allowed.")
    else:
        result = num1 / num2
        print(f"Result: {num1} / {num2} = {result}")

elif operator == '%':
    if num2 == 0:
        print("Error: Modulus by zero is not allowed.")
    else:
        result = num1 % num2
        print(f"Result: {num1} % {num2} = {result}")

elif operator == '//':
    if num2 == 0:
        print("Error: Floor division by zero is not allowed.")
    else:
        result = num1 // num2
        print(f"Result: {num1} // {num2} = {result}")

else:
    print("Invalid operator! Please use +, -, *, /, %, or //")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Enter the operator (+, -, *, /, %, //): /
Enter the second number: 2
Result: 5.0 / 2.0 = 2.5
Result: 5.0 / 2.0 = 2.5
PS C:\Users\naazs\Documents\internship 2 taske 3>
```

TASK 2

Discription

This Python program:

1. **Takes marks** for 3 subjects from the user
2. Calculates the **total marks** and **percentage**
3. Assigns a **grade** based on the percentage:
    - `A` → 85% or above
    - `B` → 70% to 84.99%
    - `C` → 50% to 69.99%
    - `Fail` → Below 50%
4. Displays the **total marks**, **percentage (rounded to 2 decimals)**, and the **grade**

PROGRAM

task2.py > ...

```python
#Take marks of 3 subjects.
#Calculate total, percentage and assign grade:
#A (>=85), B (>=70), C (>=50), Fail (<50).
# Step 1: Take input of marks for 3 subjects
sub1 = float(input("Enter marks for Subject 1: "))
sub2 = float(input("Enter marks for Subject 2: "))
sub3 = float(input("Enter marks for Subject 3: "))

# Step 2: Calculate total and percentage
total_marks = sub1 + sub2 + sub3
percentage = (total_marks / 300) * 100  # Assuming each subject is out of 100

# Step 3: Assign grade based on percentage
if percentage >= 85:
    grade = "A"
elif percentage >= 70:
    grade = "B"
elif percentage >= 50:
    grade = "C"
else:
    grade = "Fail"

# Step 4: Display result
print(f"\nTotal Marks: {total_marks}/300")
print(f"Percentage: {percentage:.2f}%")
print(f"Grade: {grade}")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\naazs\Documents\internship 2 taske 3> & C:/Python/Python313/python.exe "c:/Users/naazs/
Enter marks for Subject 1: 56
Enter marks for Subject 2: 34
Enter marks for Subject 3: 67

Total Marks: 157.0/300
Percentage: 52.33%
Grade: C
PS C:\Users\naazs\Documents\internship 2 taske 3>
```

TASK 3

Discription

This Python program:

1. **Takes user input** for:

- Monthly income
- Monthly expenses

2. **Calculates savings** by subtracting expenses from income
3. **Classifies savings** based on amount:
   - **Above 10,000** → `"Saving Well"`
   - **Between 5,000 and 9,999** → `"Average"`
   - **Below 5,000** → `"Try to Save"`
4. **Displays the savings and classification status** clearly

PROGRAM

```python
#Ask user for monthly income and expenses.
#Calculate savings and classify:
#>10000 = Saving Well, 5000-9999 = Average, <5000 = Try to Save.



# Step 1: Input from user
income = float(input("Enter your monthly income: "))
expenses = float(input("Enter your monthly expenses: "))

# Step 2: Calculate savings
savings = income - expenses

# Step 3: Classify savings
if savings > 10000:
    status = "Saving Well"
elif 5000 <= savings <= 9999:
    status = "Average"
else:
    status = "Try to Save"

# Step 4: Display results
print(f"\nYour savings: {savings:.2f}")
print(f"Status: {status}")

```

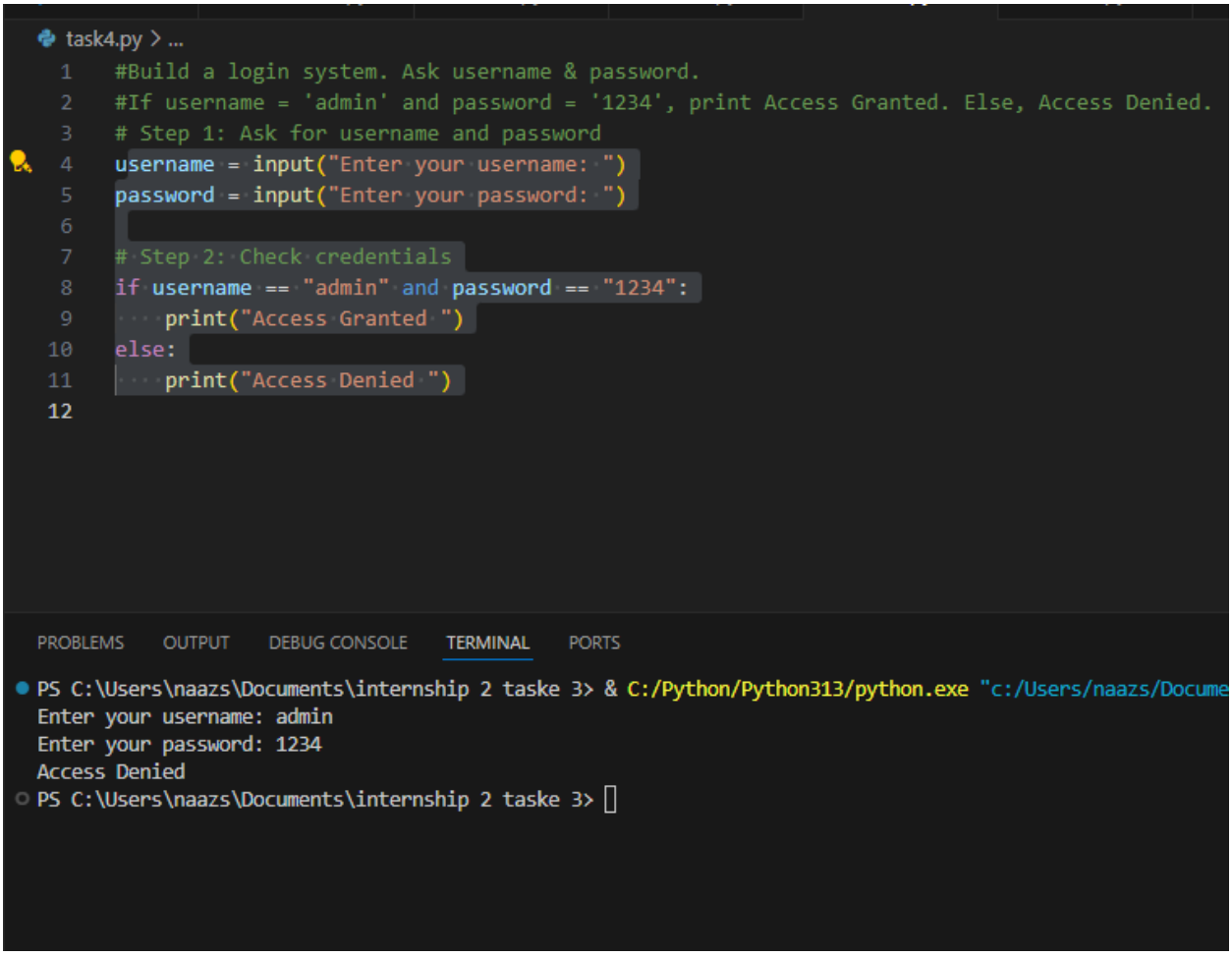
```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS C:\Users\naazs\Documents\internship 2 taske 3> & C:/Python/Python313/python
Enter your monthly income: 10000
Enter your monthly expenses: 5000

Your savings: 5000.00
Status: Average
PS C:\Users\naazs\Documents\internship 2 taske 3>
```

TASK4

Dscription

This Python program:

1. Asks the user to **enter a username and password**
2. Checks if:
   - **Username** is `"admin"`
   - **Password** is `"1234"`
3. If both are correct, it prints ✓ **"Access Granted"**
4. Otherwise, it prints ✗ **"Access Denied"**



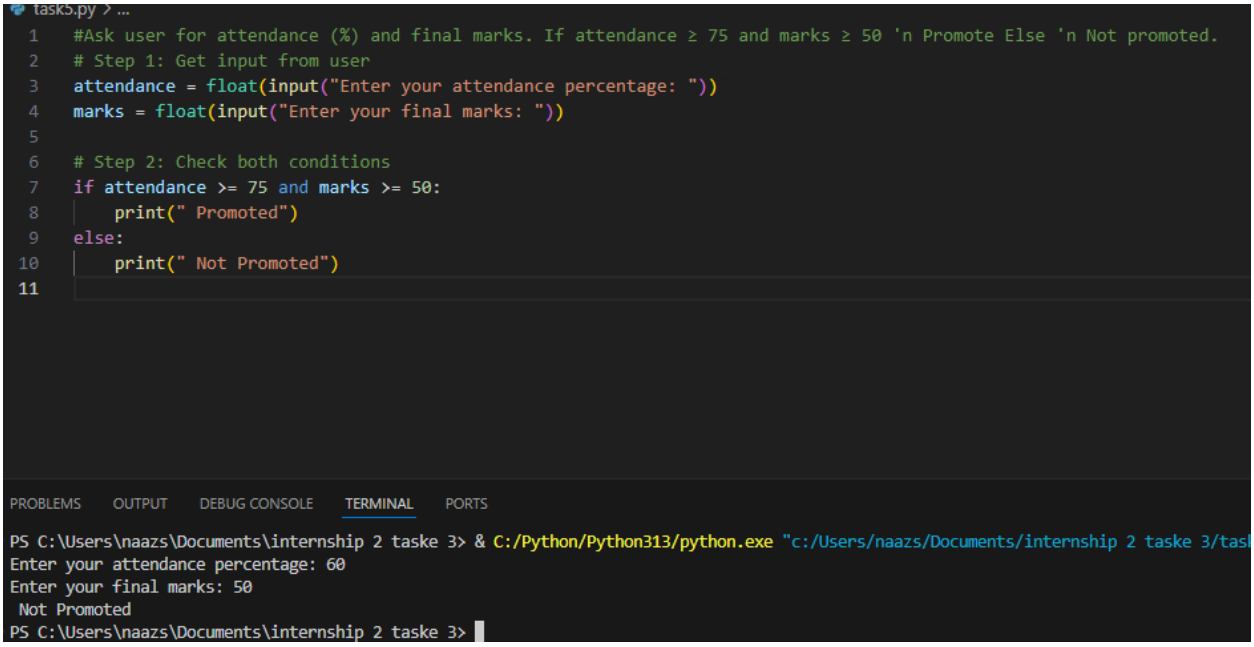
TASK 5

Discription

This Python program:

1. Takes **attendance percentage** and **final marks** from the user
2. Checks two conditions:
   - **Attendance ≥ 75%**
   - **Marks ≥ 50**
3. If both conditions are true, it prints `"Promoted"`
4. Otherwise, it prints `"Not Promoted"`

Program



Task 6

Discretion

This Python program:

1. Takes input for:
   - **Number of products**
   - **Total price** of the purchase

2. Applies discount based on the conditions:
    - **15% discount** if total price > 1000 **and** products > 3
    - **10% discount** if total price > 500

      No discount otherwise

3. Calculates the **final bill** by subtracting the discount from total price
4. Displays:
    - Original total price
    - Discount amount
    - Final payable bill

Program

task6.py > ...

```python
# Step 1: Input from user
products = int(input("Enter number of products: "))
total_price = float(input("Enter total price: "))

# Step 2: Apply discount
if total_price > 1000 and products > 3:
    discount = 0.15 * total_price
elif total_price > 500:
    discount = 0.10 * total_price
else:
    discount = 0.0

# Step 3: Calculate final amount
final_bill = total_price - discount

# Step 4: Show result
print(f"\nTotal Price: Rs. {total_price:.2f}")
print(f"Discount Applied: Rs. {discount:.2f}")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\naazs\Documents\internship 2 taske 3> & C:/Python/Python313/pythc
Enter number of products: 30
Enter total price: 1000

Total Price: Rs. 1000.00
Discount Applied: Rs. 100.00
Final Bill to Pay: Rs. 900.00
PS C:\Users\naazs\Documents\internship 2 taske 3>
```