

SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE		DEPARTMENT OF COMPUTER SCIENCE ENGINEERING	
ProgramName:B. Tech	Assignment Type: Lab		AcademicYear:2025-2026
CourseCoordinatorName	Venkataramana Veeramsetty		
Instructor(s)Name	Dr. V. Venkataramana (Co-ordinator) Dr. T. Sampath Kumar Dr. Pramoda Patro Dr. Brij Kishor Tiwari Dr.J.Ravichander Dr. Mohammand Ali Shaik Dr. Anirodh Kumar Mr. S.Naresh Kumar Dr. RAJESH VELPULA Mr. Kundhan Kumar Ms. Ch.Rajitha Mr. M Prakash Mr. B.Raju Intern 1 (Dharma teja) Intern 2 (Sai Prasad) Intern 3 (Sowmya) NS_2 ( Mounika)		
CourseCode	24CS002PC215	CourseTitle	AI Assisted Coding
Year/Sem	II/I	Regulation	R24
Date and Day of Assignment	Week3 - Wednesday	Time(s)	
Duration	2 Hours	Applicableto Batches	
AssignmentNumber:6.3(Present assignment number)/24(Total number of assignments)			
Q.No.	Question		Expected Time to complete
1	<p>Lab 6: AI-Based Code Completion – Classes, Loops, and Conditionals</p> <p><b>Lab Objectives:</b></p> <ul style="list-style-type: none"> <li>• To explore AI-powered auto-completion features for core Python constructs.</li> <li>• To analyze how AI suggests logic for class definitions, loops, and</li> </ul>		Week3 - Wednesday

	<p>conditionals.</p> <ul style="list-style-type: none"> <li>To evaluate the completeness and correctness of code generated by AI assistants.</li> </ul> <p><b>Lab Outcomes (LOs):</b></p> <p>After completing this lab, students will be able to:</p> <ul style="list-style-type: none"> <li>Use AI tools to generate and complete class definitions and methods.</li> <li>Understand and assess AI-suggested loops for iterative tasks.</li> <li>Generate conditional statements through prompt-driven suggestions.</li> <li>Critically evaluate AI-assisted code for correctness and clarity.</li> </ul> <p><b>Task Description#1 (Classes)</b></p> <ul style="list-style-type: none"> <li>Use AI to complete a Student class with attributes and a method.</li> <li>Check output</li> <li>Analyze the code generated by AI tool</li> </ul> <p><b>Expected Output#1</b></p> <ul style="list-style-type: none"> <li>Class with constructor and display_details() method</li> </ul> <p><b>Task Description#2 (Loops)</b></p> <ul style="list-style-type: none"> <li>Prompt AI to complete a function that prints the first 10 multiples of a number using a loop.</li> <li>Analyze the generated code</li> <li>Ask AI to generate code using other controlled looping</li> </ul> <p><b>Expected Output#2</b></p> <ul style="list-style-type: none"> <li>Correct loop-based implementation</li> </ul> <p><b>Task Description#3 (Conditional Statements)</b></p> <ul style="list-style-type: none"> <li>Ask AI to write nested if-elif-else conditionals to classify age groups.</li> <li>Analyze the generated code</li> <li>Ask AI to generate code using other conditional statements</li> </ul> <p><b>Expected Output#3</b></p> <ul style="list-style-type: none"> <li>Age classification function with appropriate conditions and with explanation</li> </ul> <p><b>Task Description#4 (For and While loops)</b></p> <ul style="list-style-type: none"> <li>Generate a sum_to_n() function to calculate sum of first n numbers</li> <li>Analyze the generated code</li> <li>Get suggestions from AI with other controlled looping</li> </ul> <p><b>Expected Output#4</b></p> <ul style="list-style-type: none"> <li>Python code with explanation</li> </ul> <p><b>Task Description#5 (Class)</b></p> <ul style="list-style-type: none"> <li>Use AI to build a BankAccount class with deposit, withdraw, and</li> </ul>	
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- balance methods.
- Analyze the generated code
  - Add comments and explain code

**Expected Output#5**

- Python code with explanation

**Note:** Report should be submitted a word document for all tasks in a single document with prompts, comments & code explanation, and output and if required, screenshots

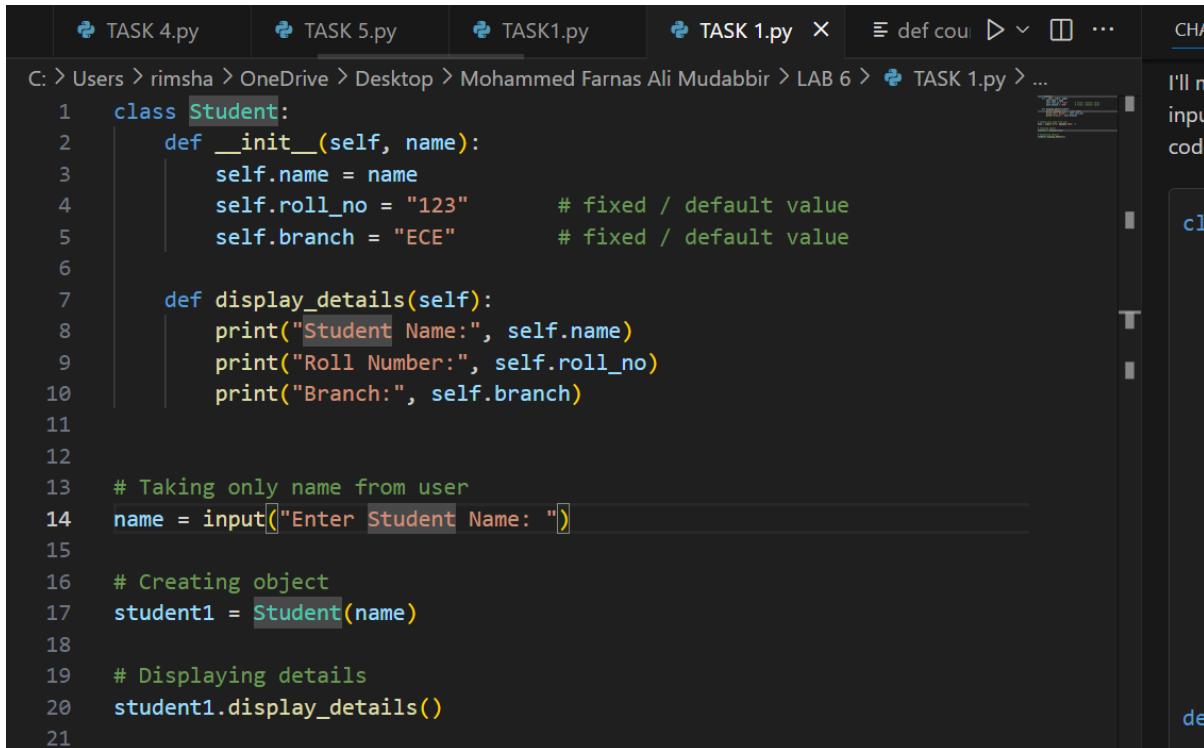
**Evaluation Criteria:**

Criteria	Max Marks
Class	1.0
Loops	1.0
Conditional Statements	0.5
<b>Total</b>	<b>2.5 Marks</b>

## Task Description#1 (Classes)

- Use AI to complete a Student class with attributes and a method.
- Check output
- Analyze the code generated by AI tool

**PROMPT:** Create a Python Student class with attributes and a method to display the student details.



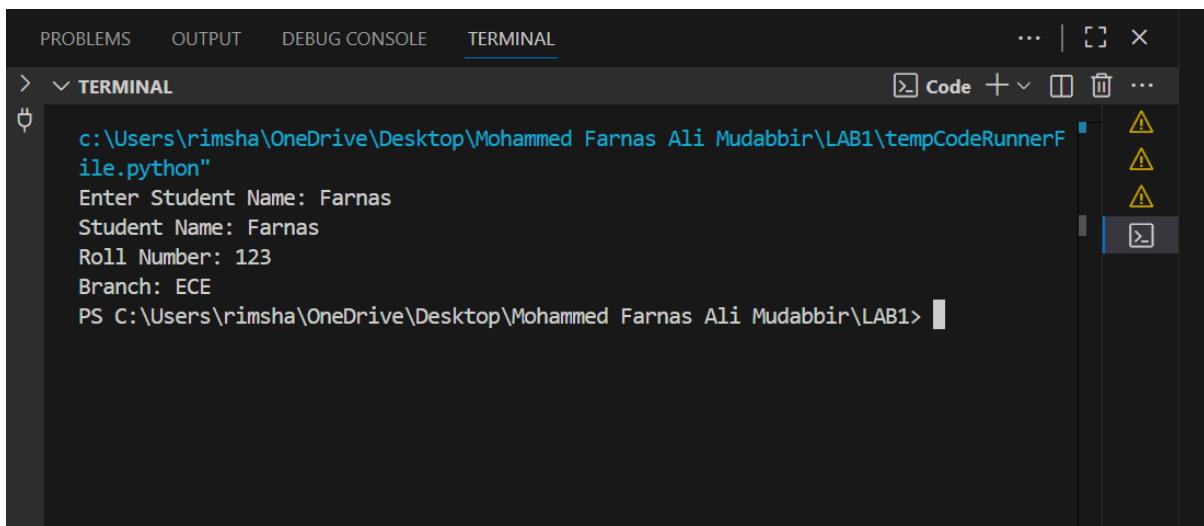
The screenshot shows a code editor in VS Code with several tabs at the top: TASK 4.py, TASK 5.py, TASK1.py (which is the active tab), TASK 1.py, def cou, and others. The code itself is as follows:

```
C: > Users > rimsha > OneDrive > Desktop > Mohammed Farnas Ali Mudabbir > LAB 6 > TASK 1.py > ...
1  class Student:
2      def __init__(self, name):
3          self.name = name
4          self.roll_no = "123"      # fixed / default value
5          self.branch = "ECE"       # fixed / default value
6
7      def display_details(self):
8          print("Student Name:", self.name)
9          print("Roll Number:", self.roll_no)
10         print("Branch:", self.branch)
11
12
13     # Taking only name from user
14     name = input("Enter Student Name: ")
15
16     # Creating object
17     student1 = Student(name)
18
19     # Displaying details
20     student1.display_details()
21
```

### Expected Output#1

- Class with constructor and display\_details() method

**Practical Output:**



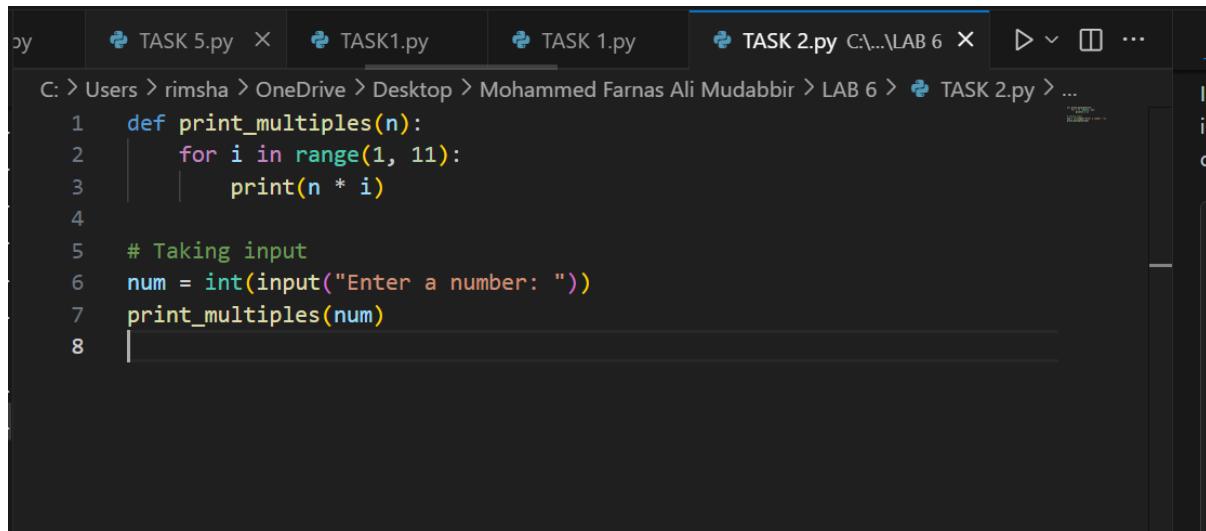
The screenshot shows the terminal tab in VS Code. The command `file.py` was run, and the output is as follows:

```
c:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1>file.py
Enter Student Name: Farnas
Student Name: Farnas
Roll Number: 123
Branch: ECE
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1>
```

## Task Description#2 (Loops)

- Prompt AI to complete a function that prints the first 10 multiples of a number using a loop.
- Analyze the generated code
- Ask AI to generate code using other controlled looping

**PROMPT:** Prompt AI to complete a function that prints the first 10 multiples of a number using a loop.



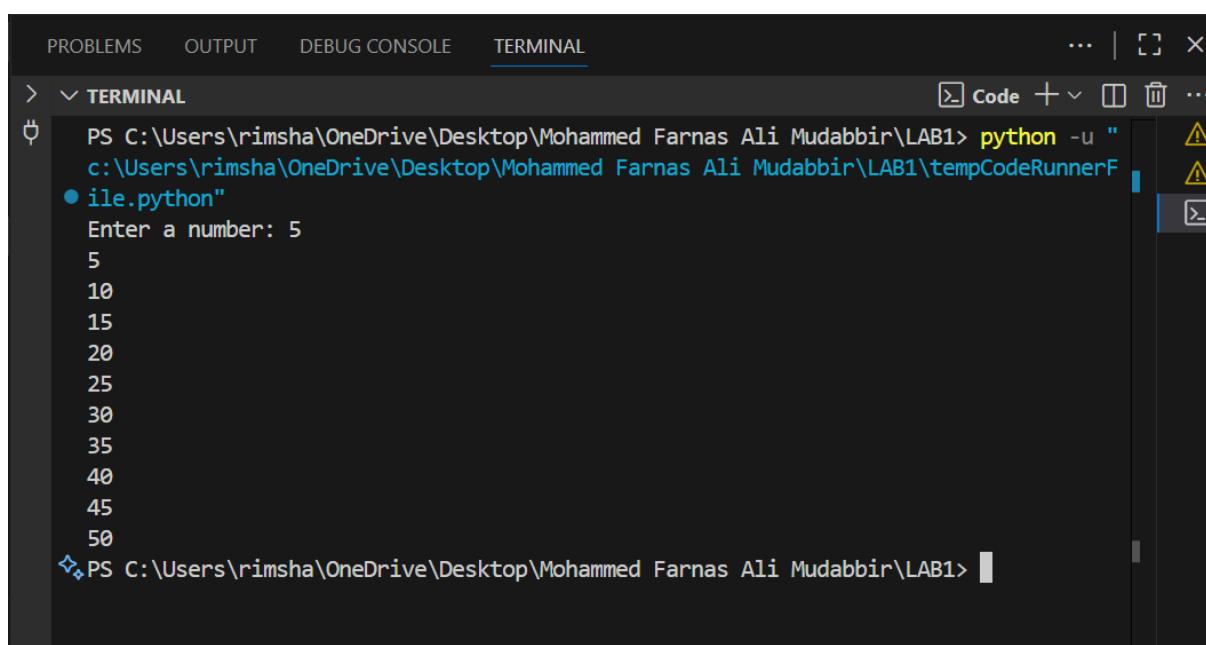
The screenshot shows a code editor with multiple tabs at the top: 'TASK 5.py', 'TASK1.py', 'TASK 1.py', 'TASK 2.py' (which is the active tab), and '...'. The code in 'TASK 2.py' is as follows:

```
C: > Users > rimsha > OneDrive > Desktop > Mohammed Farnas Ali Mudabbir > LAB 6 > TASK 2.py > ...
1 def print_multiples(n):
2     for i in range(1, 11):
3         print(n * i)
4
5 # Taking input
6 num = int(input("Enter a number: "))
7 print_multiples(num)
8
```

### Expected Output#2

- Correct loop-based implementation

**Practical output:**



The screenshot shows a terminal window with the following interface elements at the top: PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL (which is the active tab), and a close button. The terminal output is as follows:

```
> < TERMINAL
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1> python -u "c:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1\tempCodeRunnerFile.py"
● Enter a number: 5
5
10
15
20
25
30
35
40
45
50
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1>
```

### Task Description#3 (Conditional Statements)

- Ask AI to write nested if-elif-else conditionals to classify age groups.
- Analyze the generated code
- Ask AI to generate code using other conditional statements

**PROMPT:** Write Python code to classify age using nested if-elif-else, then explain

The screenshot shows a code editor interface with several tabs at the top: 'py', 'TASK 1.py X', 'TASK 2.py C:\...\LAB 6', and 'def classify\_age(age): Untitled-7'. The main pane displays the following Python code:

```
1 def classify_age(age):
2     if age < 0:
3         print("Invalid age entered.")
4     else:
5         if age <= 12:
6             print("Child")
7         elif age <= 19:
8             print("Teenager")
9         elif age <= 35:
10            print("Young Adult")
11        elif age <= 60:
12            print("Adult")
13        else:
14            print("Senior Citizen")
15
16
17 # Taking user input
18 age_value = int(input("Enter your age: "))
19 classify_age(age_value)
20
```

To the right of the code editor, there is a 'CHAT' panel with a message: "I'll modify the input and run the code".

### Expected Output#3

- Age classification function with appropriate conditions and with explanation

**Practical output:**

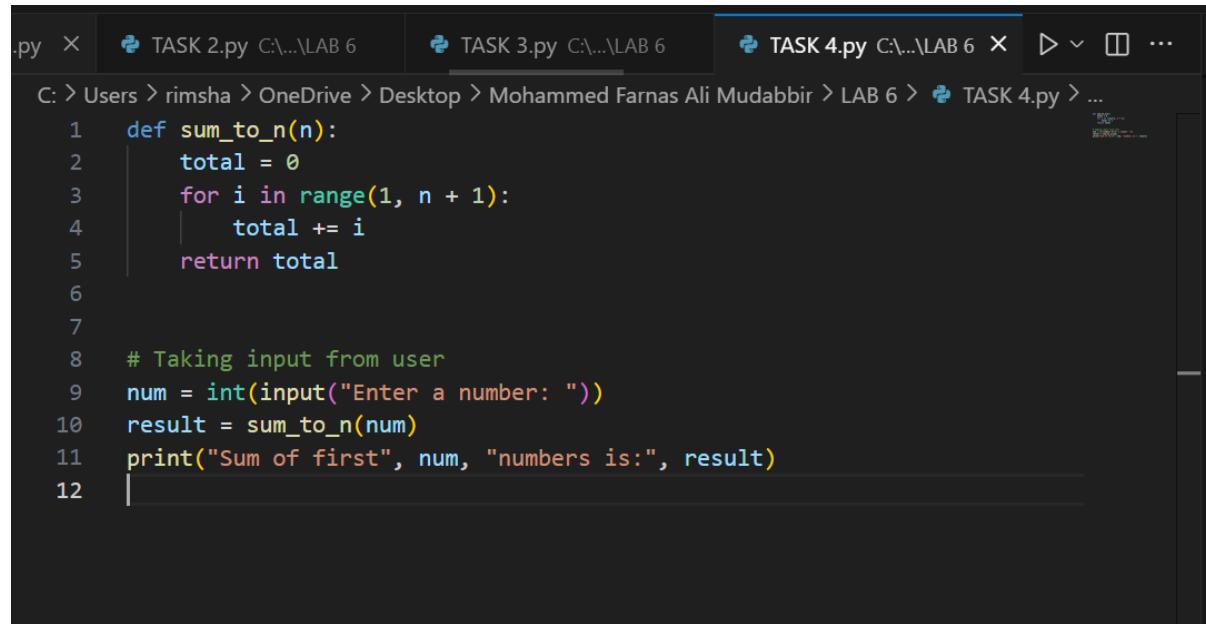
The screenshot shows a terminal window with the following text:

```
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1> python -u "c:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1\tempCodeRunnerFile.python"
Enter your age: 5
Child
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1> python -u "c:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1\tempCodeRunnerFile.python"
Enter your age: 25
Young Adult
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1> python -u "c:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1\tempCodeRunnerFile.python"
Enter your age: 55
Adult
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1>
```

## Task Description#4 (For and While loops)

- Generate a sum\_to\_n() function to calculate sum of first n numbers
- Analyze the generated code
- Get suggestions from AI with other controlled looping

**PROMPT:** Write a sum\_to\_n() function in Python to sum first n numbers using a loop.



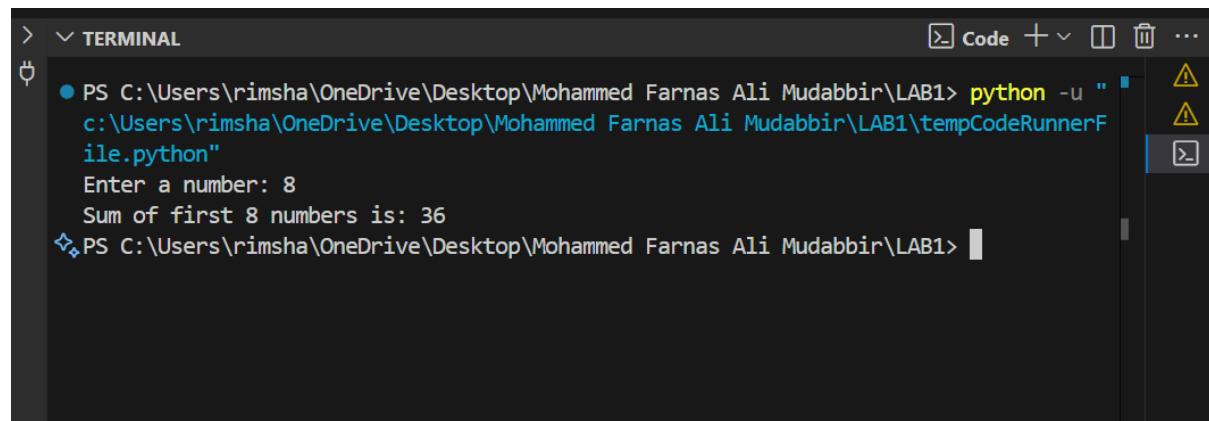
The screenshot shows a code editor window with multiple tabs at the top: .py, TASK 2.py, TASK 3.py, and TASK 4.py. The active tab is TASK 4.py. The code in the editor is as follows:

```
C: > Users > rimsha > OneDrive > Desktop > Mohammed Farnas Ali Mudabbir > LAB 6 > TASK 4.py > ...
1 def sum_to_n(n):
2     total = 0
3     for i in range(1, n + 1):
4         total += i
5     return total
6
7
8 # Taking input from user
9 num = int(input("Enter a number: "))
10 result = sum_to_n(num)
11 print("Sum of first", num, "numbers is:", result)
12 |
```

## Expected Output#4

- Python code with explanation

**Practical output:**



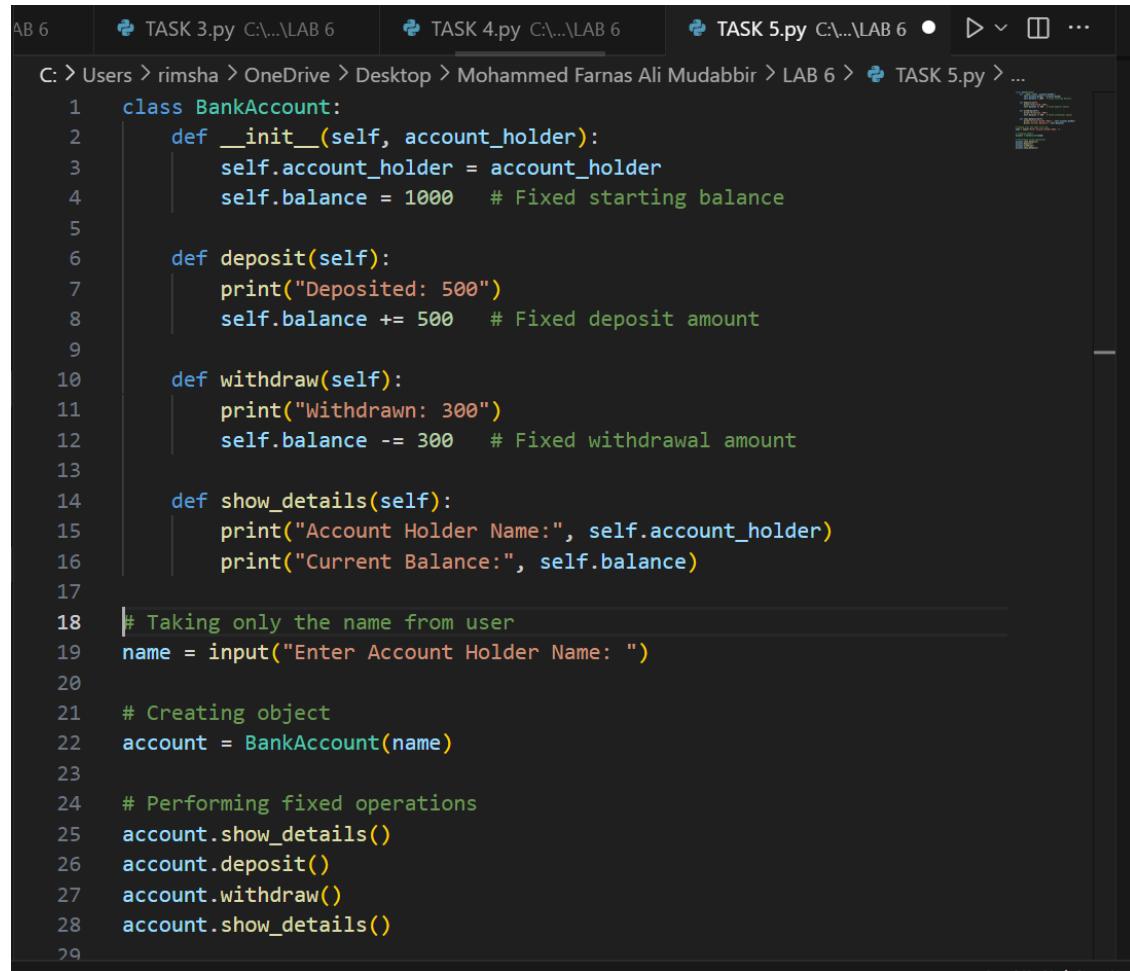
The screenshot shows a terminal window with the title 'TERMINAL'. It displays the following command and its output:

```
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1> python -u "c:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1\tempCodeRunnerFile.python"
Enter a number: 8
Sum of first 8 numbers is: 36
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1>
```

## Task Description#5 (Class)

- Use AI to build a BankAccount class with deposit, withdraw, and balance methods.
- Analyze the generated code
- Add comments and explain code

**PROMPT:** Create a Python BankAccount class with deposit, withdraw, and check\_balance methods.



```
C:\> Users > rimsha > OneDrive > Desktop > Mohammed Farnas Ali Mudabbir > LAB 6 > TASK 5.py > ...
1  class BankAccount:
2      def __init__(self, account_holder):
3          self.account_holder = account_holder
4          self.balance = 1000    # Fixed starting balance
5
6      def deposit(self):
7          print("Deposited: 500")
8          self.balance += 500    # Fixed deposit amount
9
10     def withdraw(self):
11         print("Withdrawn: 300")
12         self.balance -= 300    # Fixed withdrawal amount
13
14     def show_details(self):
15         print("Account Holder Name:", self.account_holder)
16         print("Current Balance:", self.balance)
17
18     # Taking only the name from user
19     name = input("Enter Account Holder Name: ")
20
21     # Creating object
22     account = BankAccount(name)
23
24     # Performing fixed operations
25     account.show_details()
26     account.deposit()
27     account.withdraw()
28     account.show_details()
29
```

### Expected Output#5

- Python code with explanation

Practical output:

```
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1> python -u "c:/Users/rimsha/OneDrive\Desktop/Mohammed Farnas Ali Mudabbir\LAB1\tempCodeRunnerFile.py"
Enter Account Holder Name: FARNAS
Account Holder Name: FARNAS
Current Balance: 1000
Deposited: 500
Withdrawn: 300
Account Holder Name: FARNAS
Current Balance: 1200
PS C:\Users\rimsha\OneDrive\Desktop\Mohammed Farnas Ali Mudabbir\LAB1>
```