SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE	DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

Program Name: B. Tech	**Assignment Type: Lab**	**Academic Year:**2025-2026
Course Coordinator Name	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)	

Course Code	24CS002PC215	**Course Title**	AI Assisted Coding
Year/Sem	II/I	**Regulation**	R24
Date and Day of Assignment	Week5 - Monday	**Time(s)**	
Duration	2 Hours	**Applicable to Batches**	

AssignmentNumber:10.1(Present assignment number)/**24**(Total number of assignments)

Q.No.	**Question**	***Expected Time to complete***
1	**Lab 10 – Code Review and Quality: Using AI to Improve Code Quality and Readability** **Lab Objectives** • Use AI for automated code review and quality enhancement. • Identify and fix syntax, logical, performance, and security issues in Python code. • Improve readability and maintainability through structured refactoring and comments.	Week5 - Monday

- Apply prompt engineering for targeted improvements.
- Evaluate AI-generated suggestions against PEP 8 standards and software engineering best practices

Task Description #1 – Syntax and Logic Errors

Task: Use AI to identify and fix syntax and logic errors in a faulty Python script.

Sample Input Code:

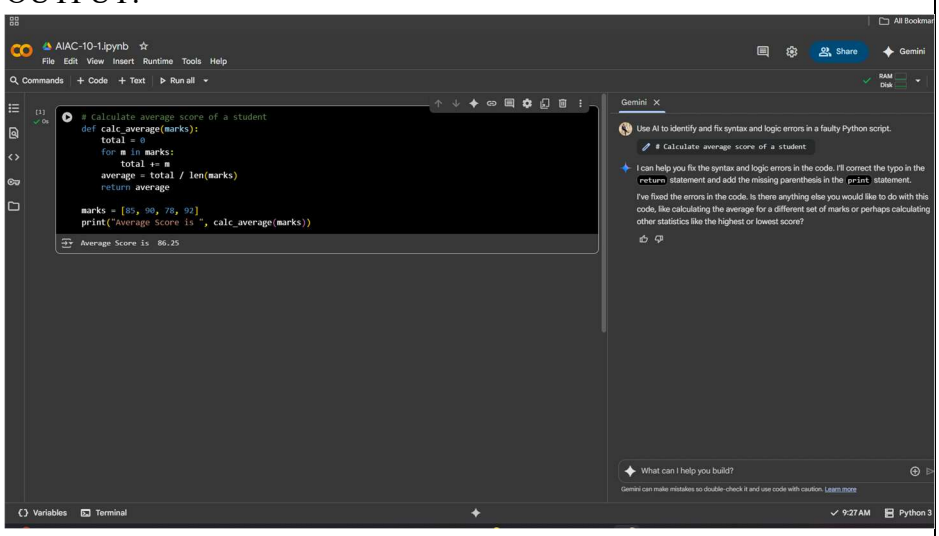
```
# Calculate average score of a student
def calc_average(marks):
    total = 0
    for m in marks:
        total += m
    average = total / len(marks)
    return avrage   # Typo here

marks = [85, 90, 78, 92]
print("Average Score is ", calc_average(marks)
```

Expected Output:

- Corrected and runnable Python code with explanations of the fixes.

OUTPUT:



Task Description #2 – PEP 8 Compliance

Task: Use AI to refactor Python code to follow PEP 8 style guidelines.

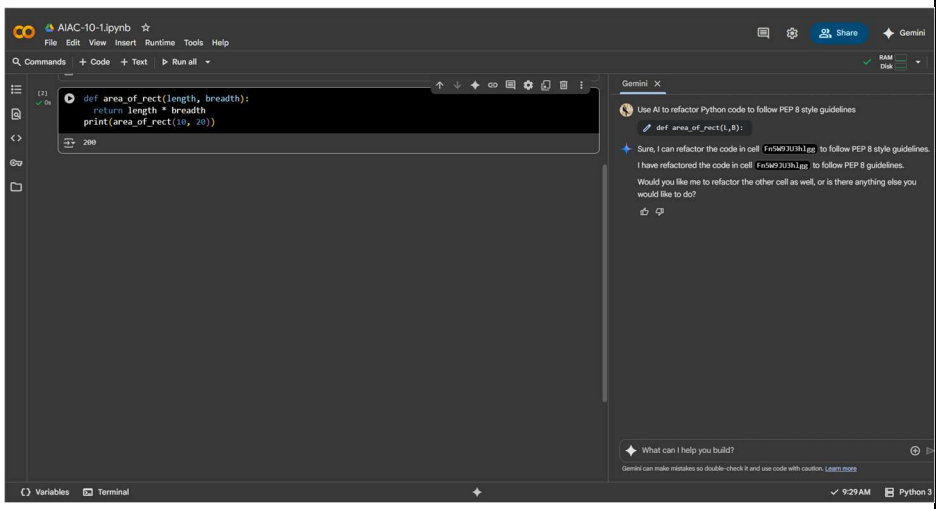
Sample Input Code:

```
def area_of_rect(L,B):return L*B
print(area_of_rect(10,20))
```

Expected Output:

- Well-formatted PEP 8-compliant Python code.

OUTPUT:



Task Description #3 – Readability Enhancement

Task: Use AI to make code more readable without changing its logic.

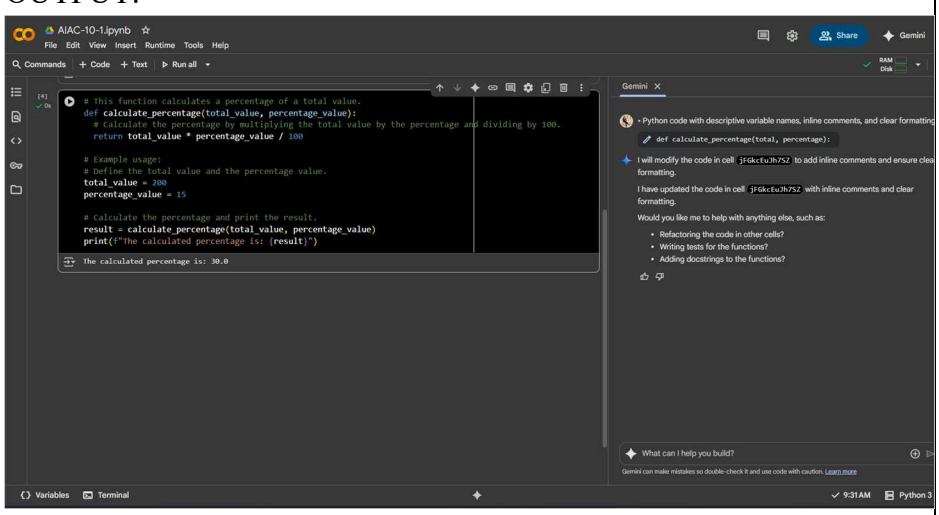
Sample Input Code:

```
def c(x,y):
 return x*y/100
a=200
b=15
print(c(a,b))
```

Expected Output:

- Python code with descriptive variable names, inline comments, and clear formatting.

OUTPUT:



Task Description #4 – Refactoring for Maintainability

Task: Use AI to break repetitive or long code into reusable functions.

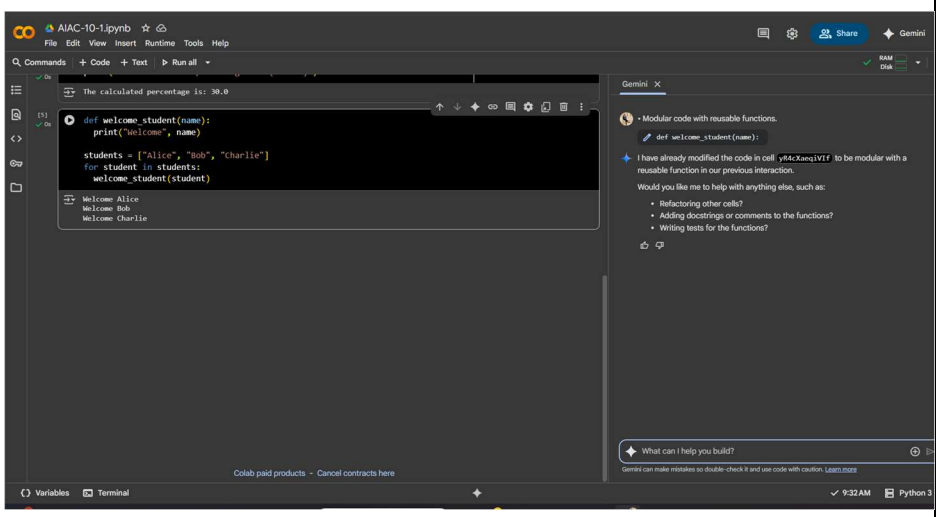
Sample Input Code:

```
students = ["Alice", "Bob", "Charlie"]
print("Welcome", students[0])
print("Welcome", students[1])
print("Welcome", students[2])
```

Expected Output:

- Modular code with reusable functions.

OUTPUT:



Task Description #5 – Performance Optimization

Task: Use AI to make the code run faster.

Sample Input Code:

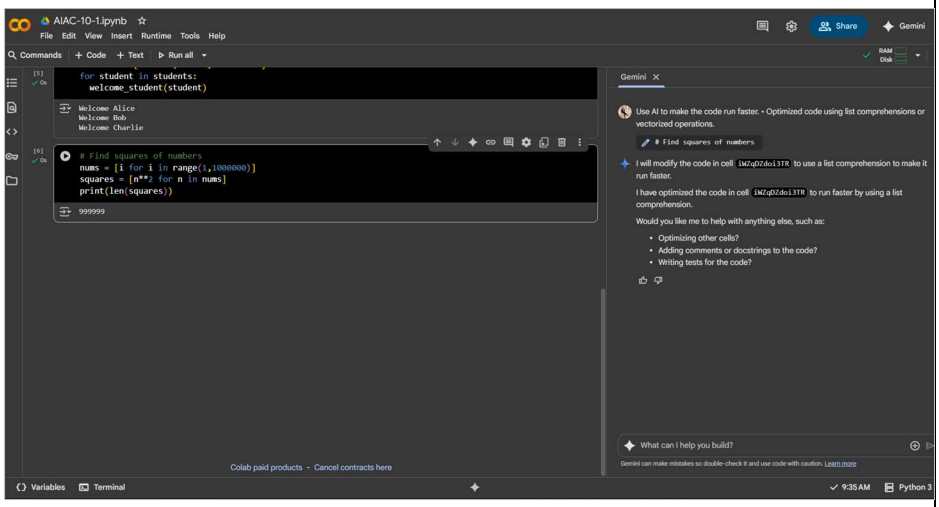
```
# Find squares of numbers
nums = [i for i in range(1,1000000)]
squares = []
for n in nums:
    squares.append(n**2)
print(len(squares))
```

Expected Output:

- Optimized code using list comprehensions or vectorized

operations.

OUTPUT:



Task Description #6 – Complexity Reduction

Task: Use AI to simplify overly complex logic.

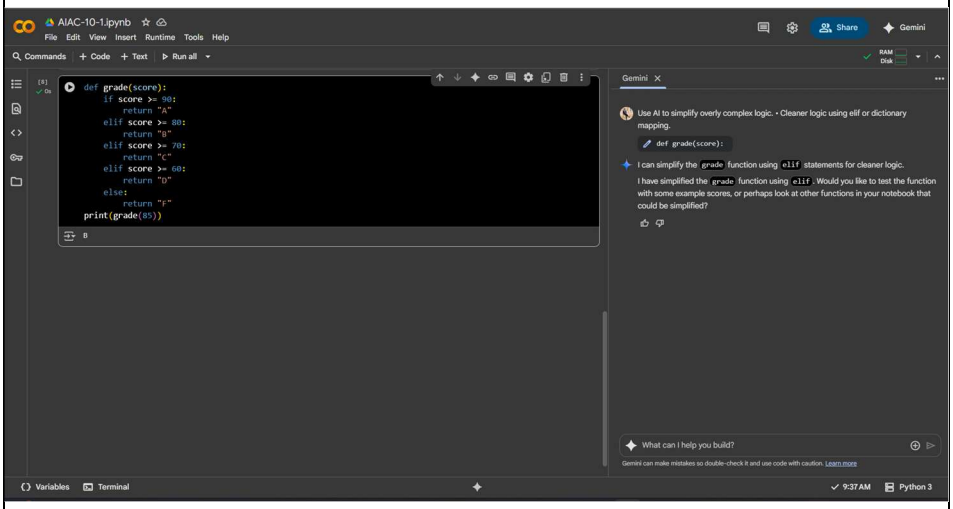
Sample Input Code:

```
def grade(score):
    if score >= 90:
        return "A"
    else:
        if score >= 80:
            return "B"
        else:
            if score >= 70:
                return "C"
            else:
                if score >= 60:
                    return "D"
                else:
                    return "F"
```

Expected Output:

- Cleaner logic using elif or dictionary mapping.

OUTPUT:



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Akshar Ganji

Batch -18