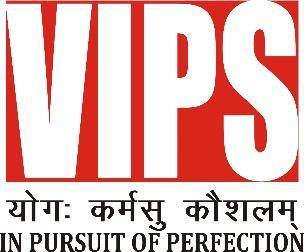
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**VIVEKANANDA INSTITUTE OF PROFESSIONAL STUDIES - TECHNICAL CAMPUS**

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**SCHOOL OF ENGINEERING & TECHNOLOGY**

**B. Tech Programme: AI-ML (A) (4th Semester)**

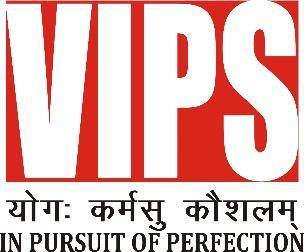
**Course Title: Fundamentals of Machine Learning Lab**

**Course Code: AIML - 258**

**Submitted To: Submitted By:**

**Dr. Shalini Gambhir Name: Kunsh Sabharwal**

**Enrolment No: 01117711623**

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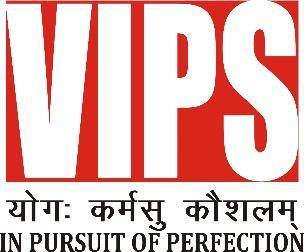
**SCHOOL OF ENGINEERING & TECHNOLOGY**

**VISION OF INSTITUTE**

To be an educational institute that empowers the field of engineering to build a sustainable future by providing quality education with innovative practices that supports people, planet and profit.

**MISSION OF INSTITUTE**

To groom the future engineers by providing value-based education and awakening students' curiosity, nurturing creativity and building  
capabilities to enable them to make significant contributions to the world.

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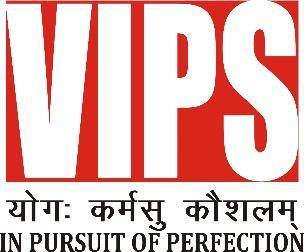
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**INDEX**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S.No. | Experiment | Date | Marks | | | Remarks | Updated Marks | Faculty Signature |
| Laboratory Assessment (15 Marks) | Class Participation (5 Marks) | Viva (5 Marks) |  |  |  |
| 1. | Study & Implement Linear Regression |  |  |  |  |  |  |  |
| 2. | Study & Implement Logistic Regression |  |  |  |  |  |  |  |
| 3. | Study & Implement K-Nearest Neighbour (KNN) |  |  |  |  |  |  |  |
| 4. | Study & Implement classification using SVM |  |  |  |  |  |  |  |
| 5. | Study & Implement Bagging using Random Forests |  |  |  |  |  |  |  |
| 6. | Study & Implement Naïve-Bayes |  |  |  |  |  |  |  |
| 7. | Study & Implement Decision Trees |  |  |  |  |  |  |  |
| 8. | Study & Implement K- Means Clustering to find natural patterns in Data |  |  |  |  |  |  |  |
| 9. | Study & Implement Classification based on association rules |  |  |  |  |  |  |  |

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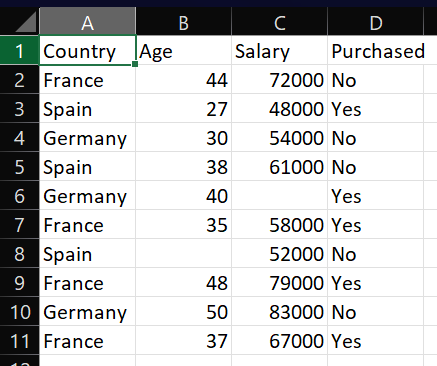
|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **EXPERIMENT TITLE**  **(Beyond Curriculum)** | **Date** | **Faculty Signature** |
| 1. | Perform the Data Preprocessing life cycle on any sample data. |  |  |
| 2. | Project on Machine Learning |  |  |

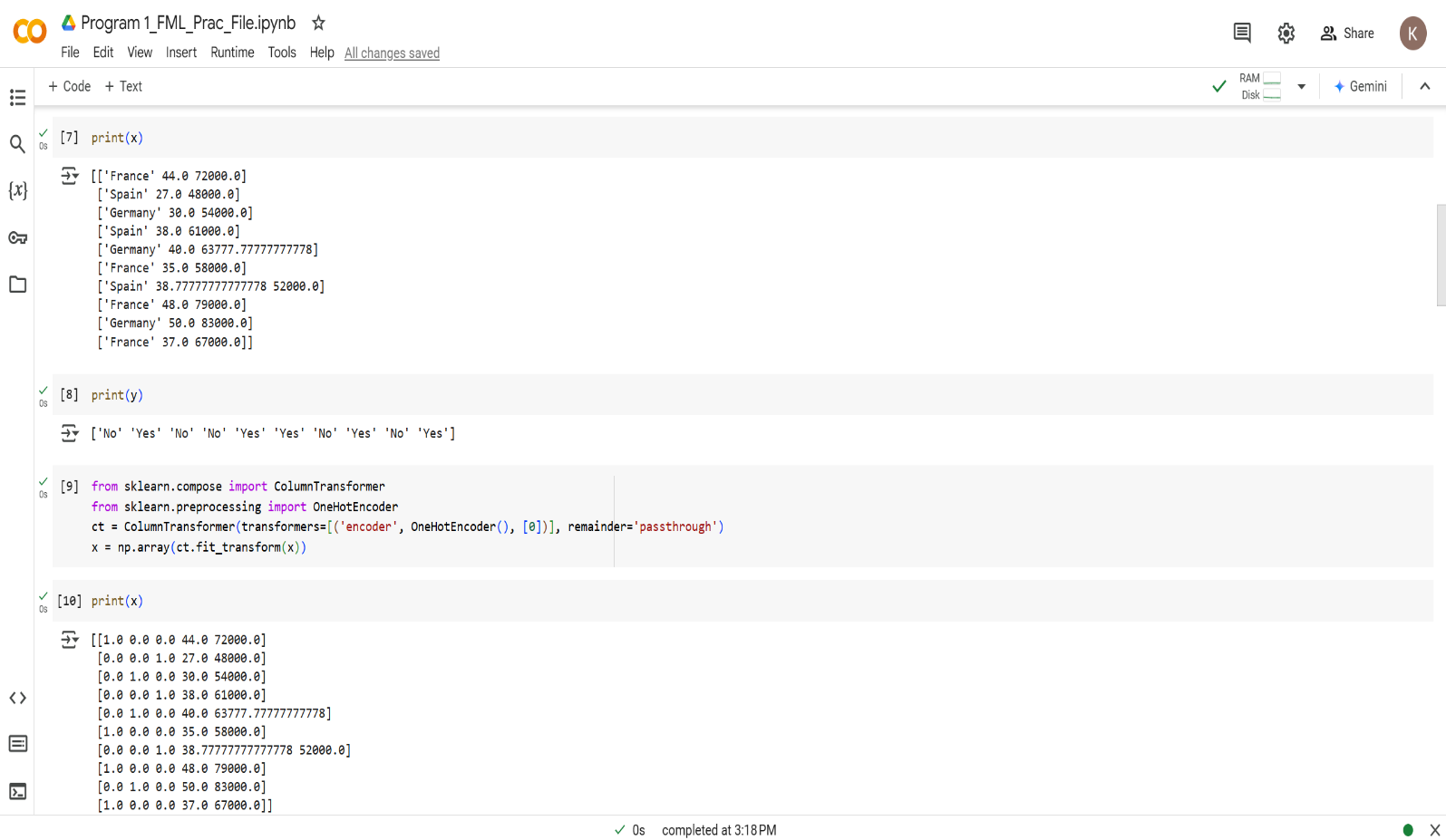
**EXPERIMENT 0**

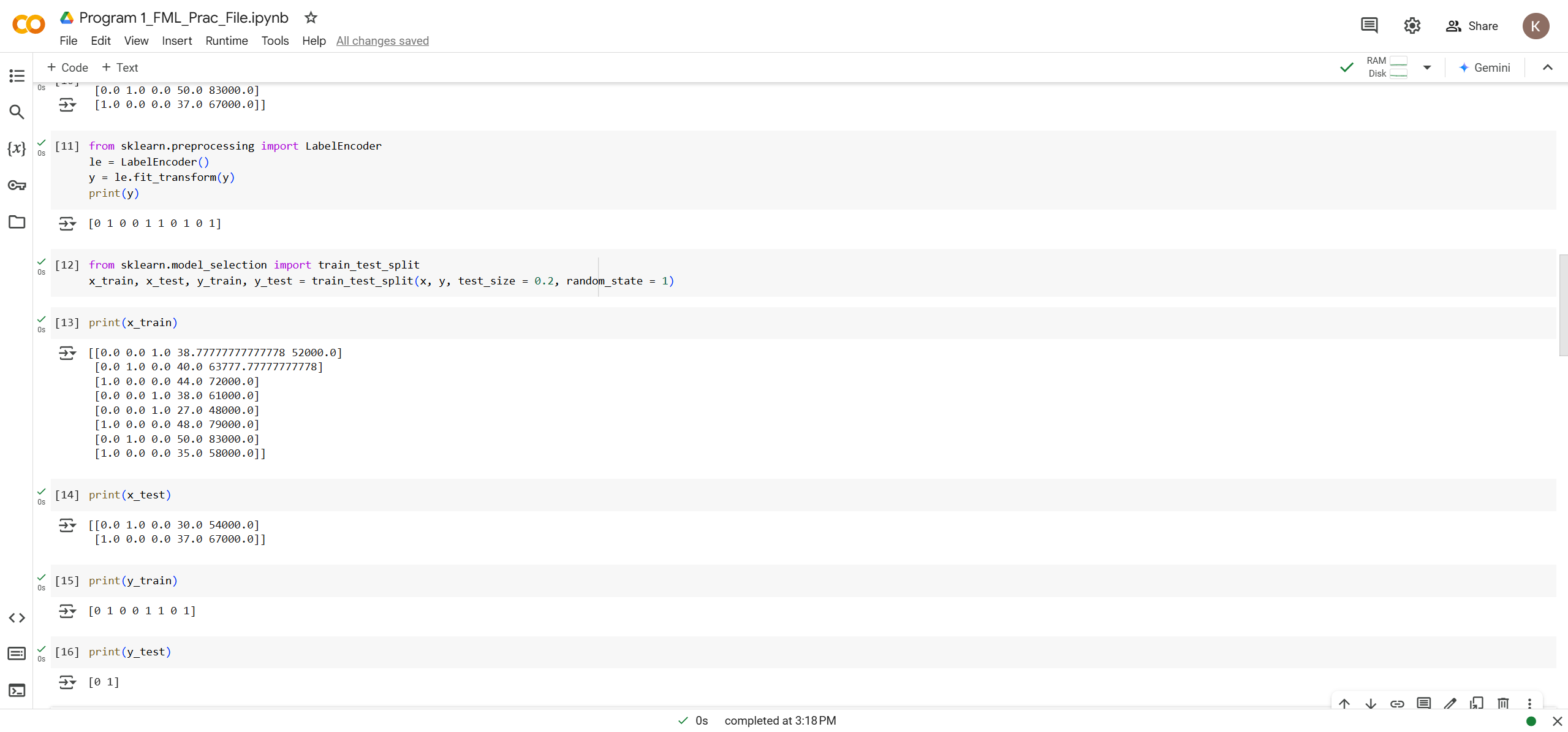
**Problem statement:** Perform the Data Preprocessing life cycle on any sample data.

**Theory:**

**Dataset:**

****

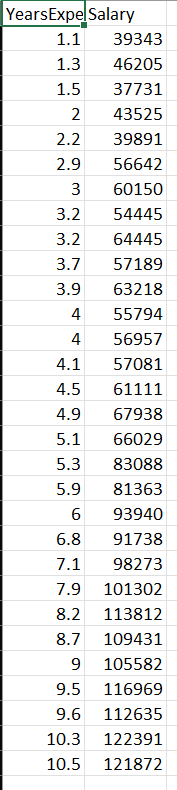
**Source Code with Outputs:**

**Learning Outcome:**

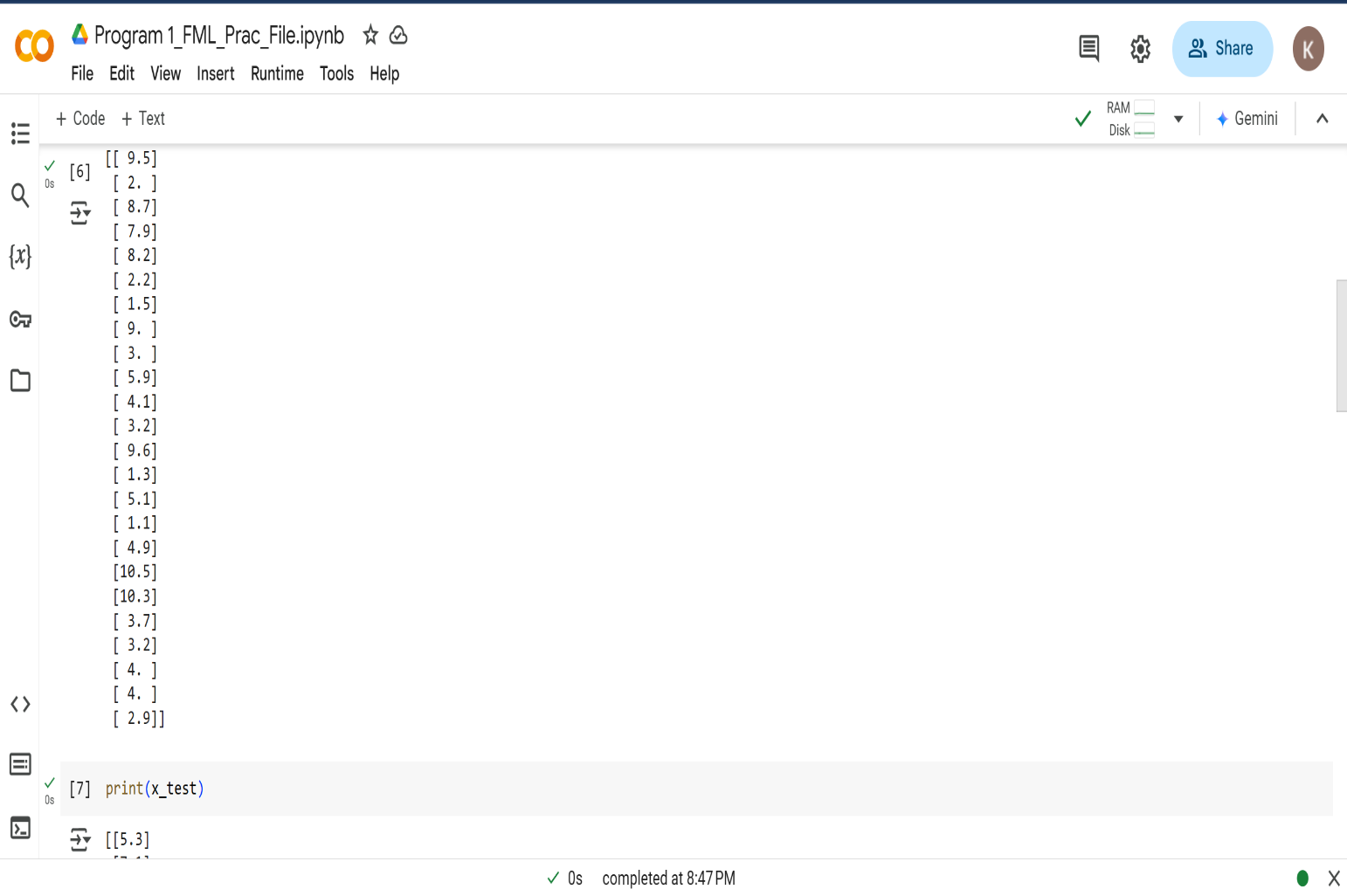
**EXPERIMENT 1**

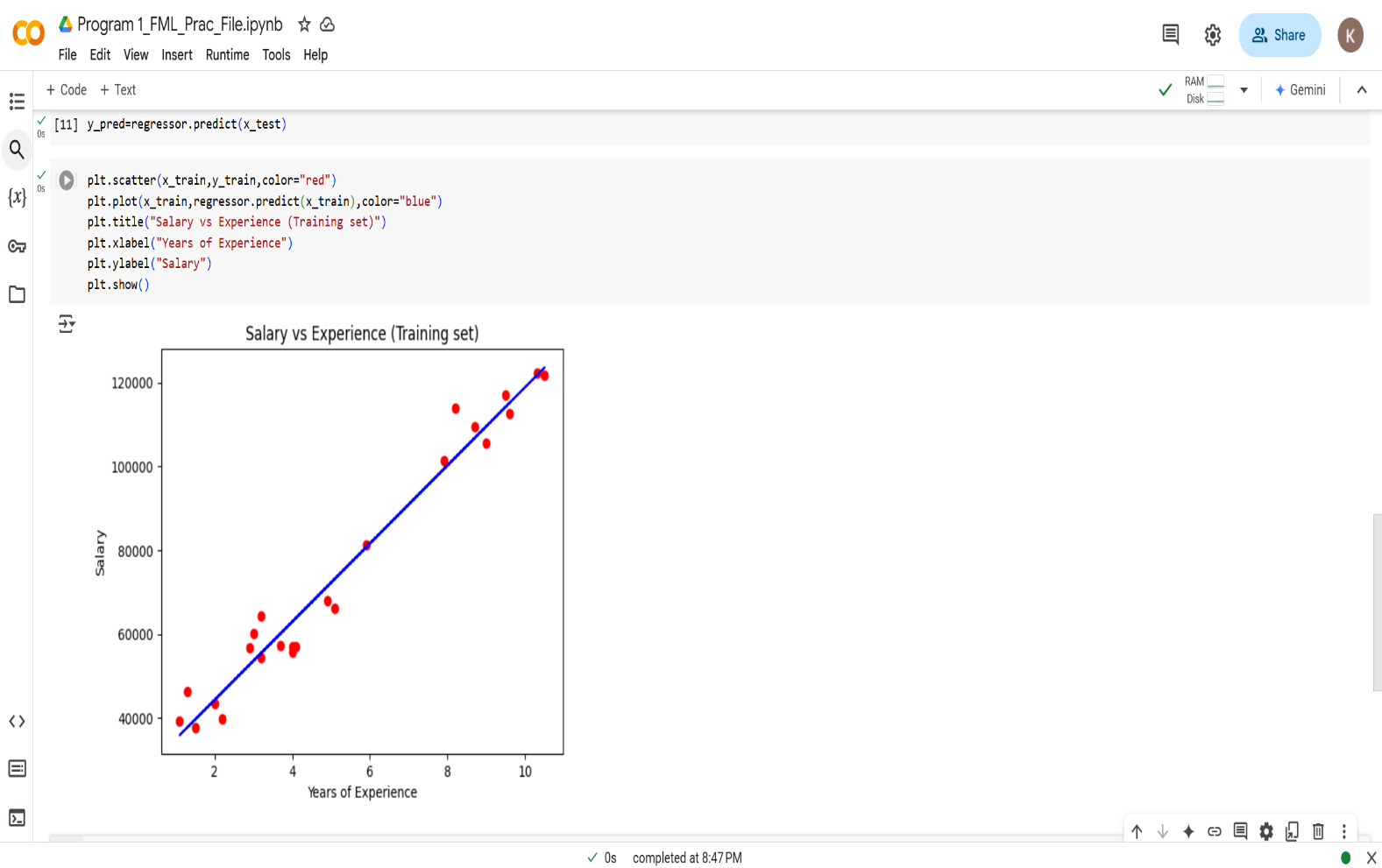
**Problem statement:** Study and implement Linear Regression.

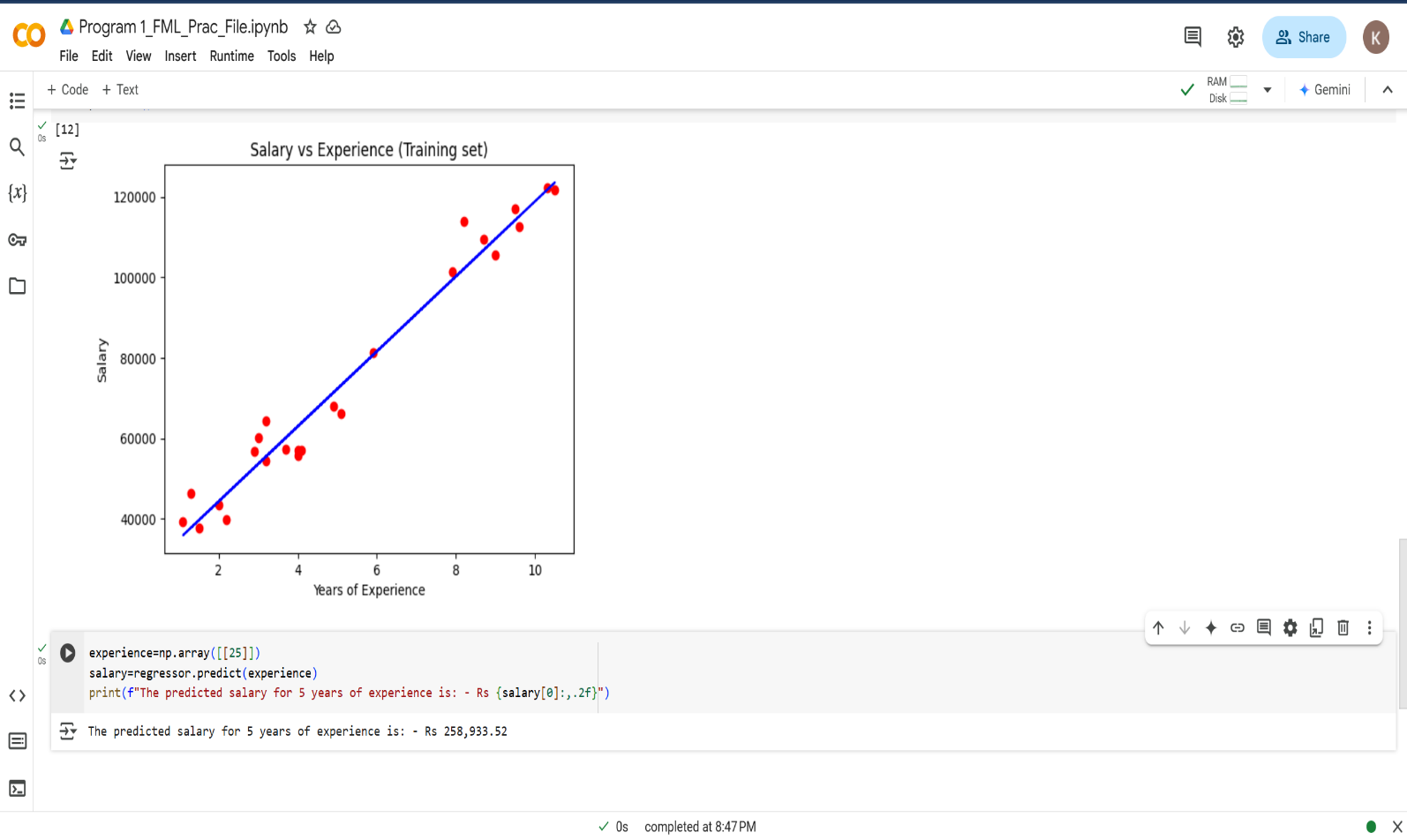
**Theory:**

****

**Dataset:**

**Source Code with Outputs:**

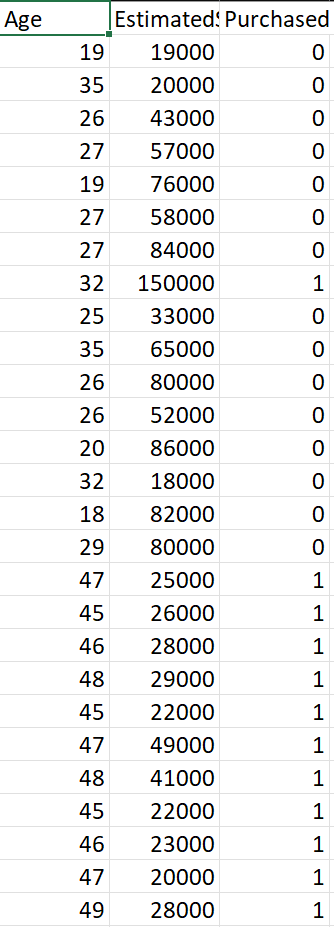
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**Learning Outcom****e:**

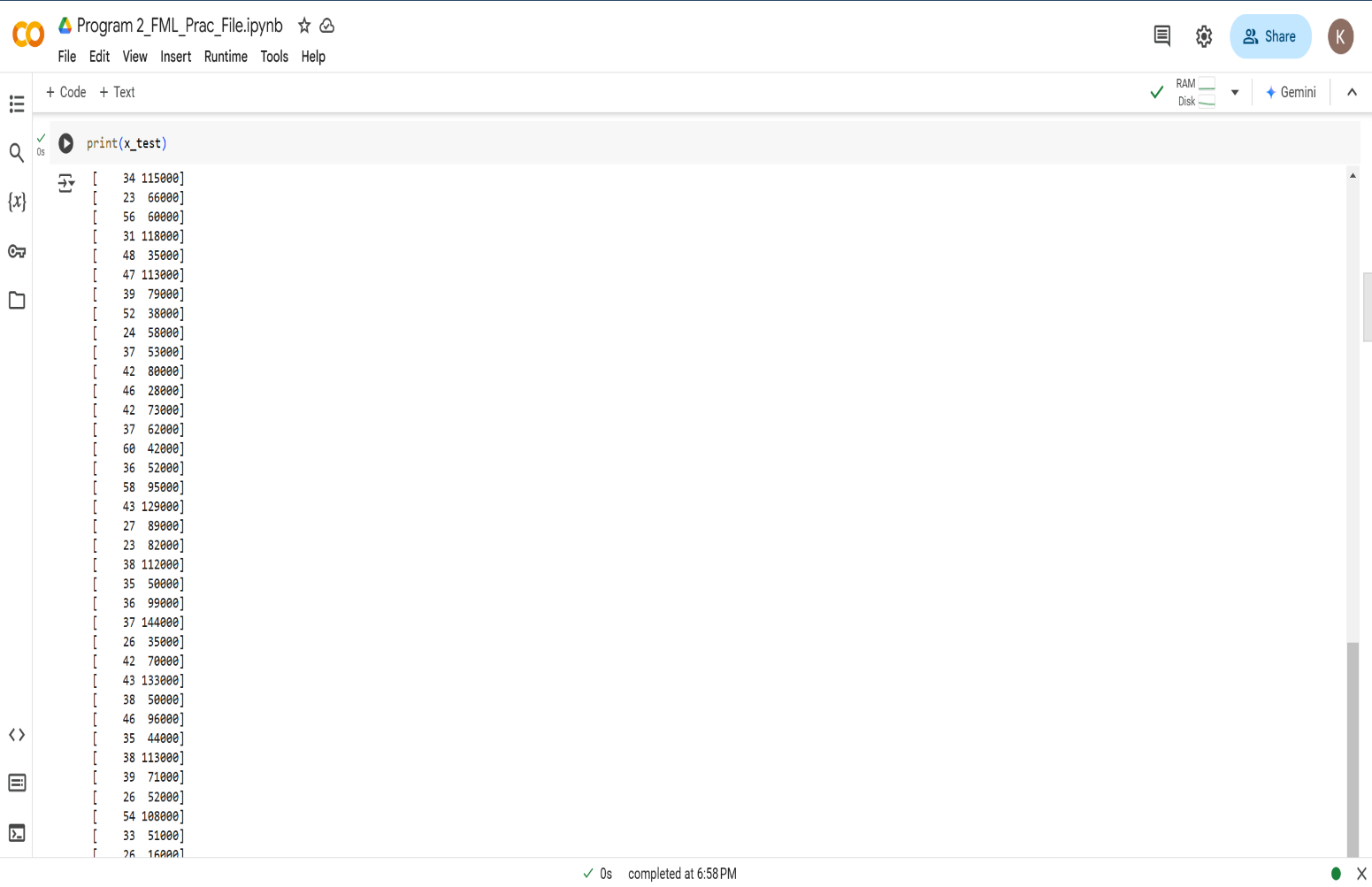
**EXPERIMENT 2**

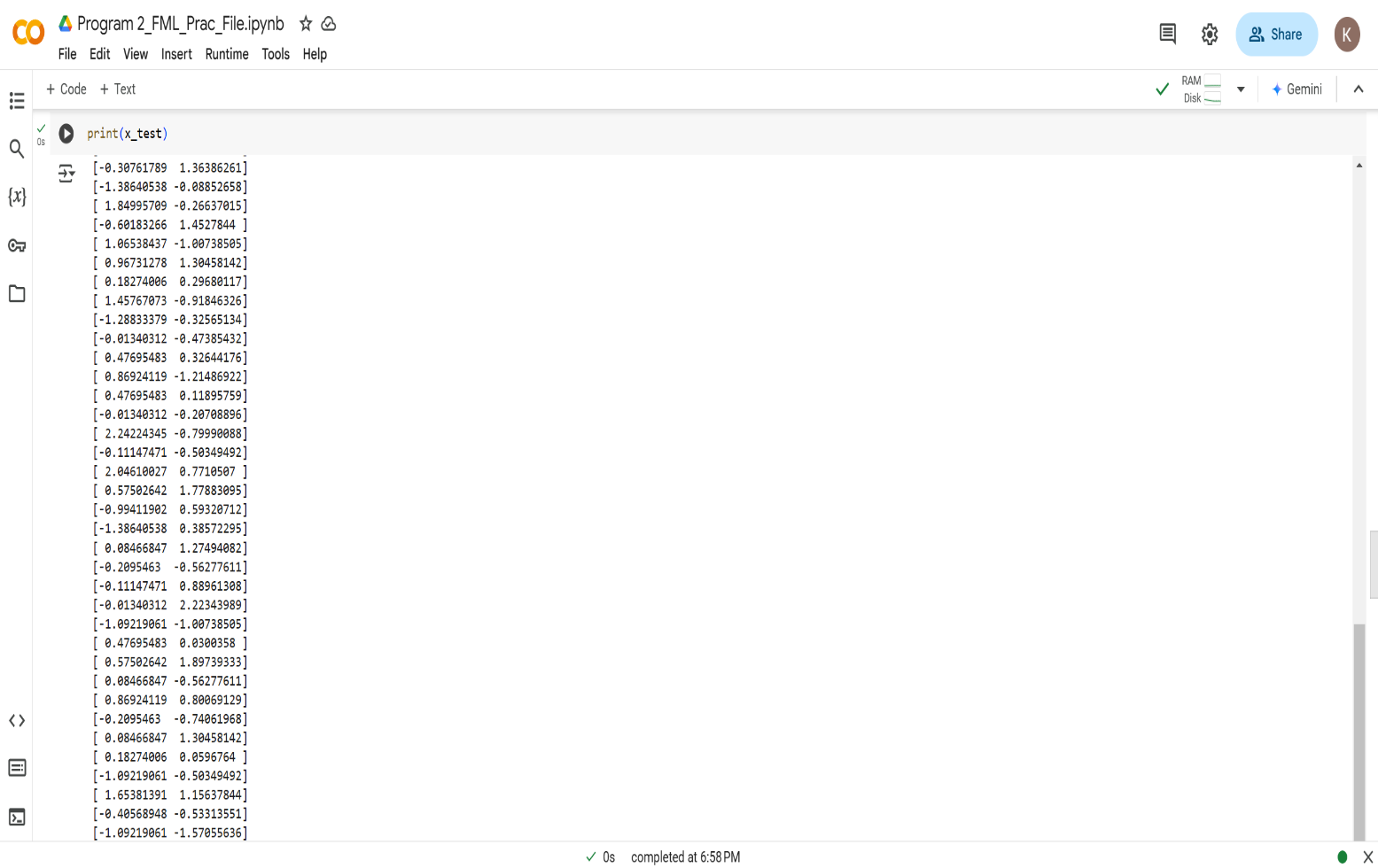
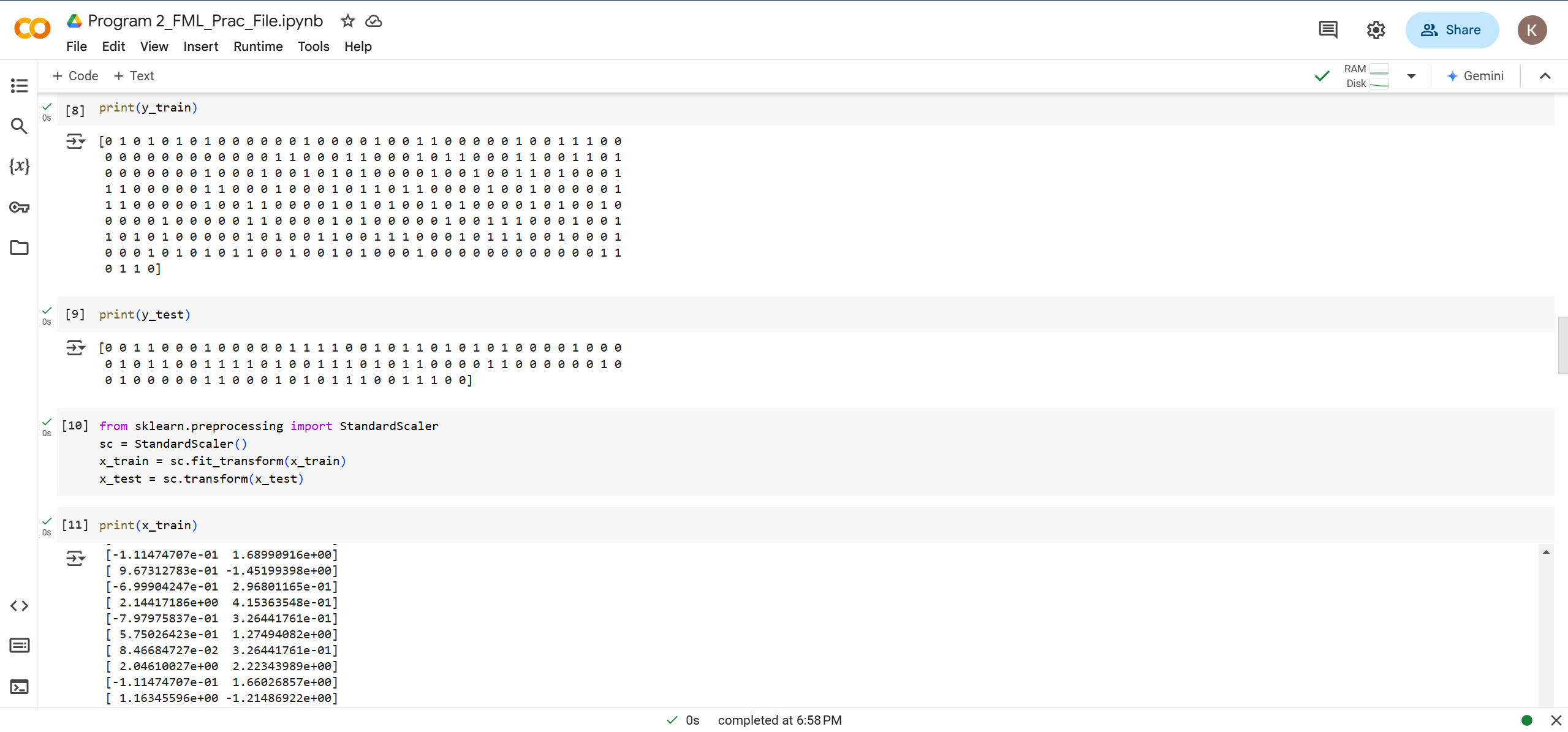
**Problem statement:** Study and implement Logistic Regression.

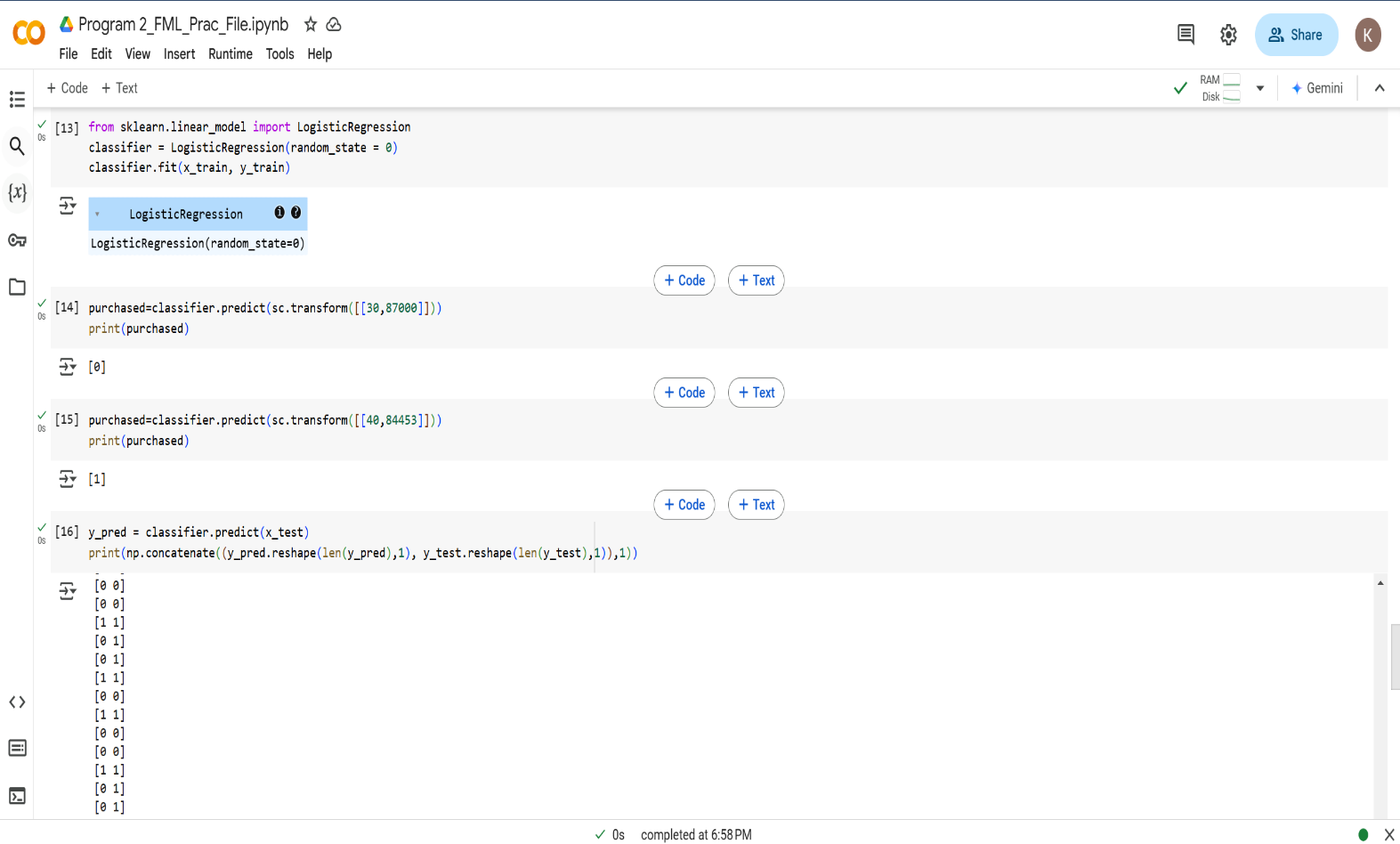
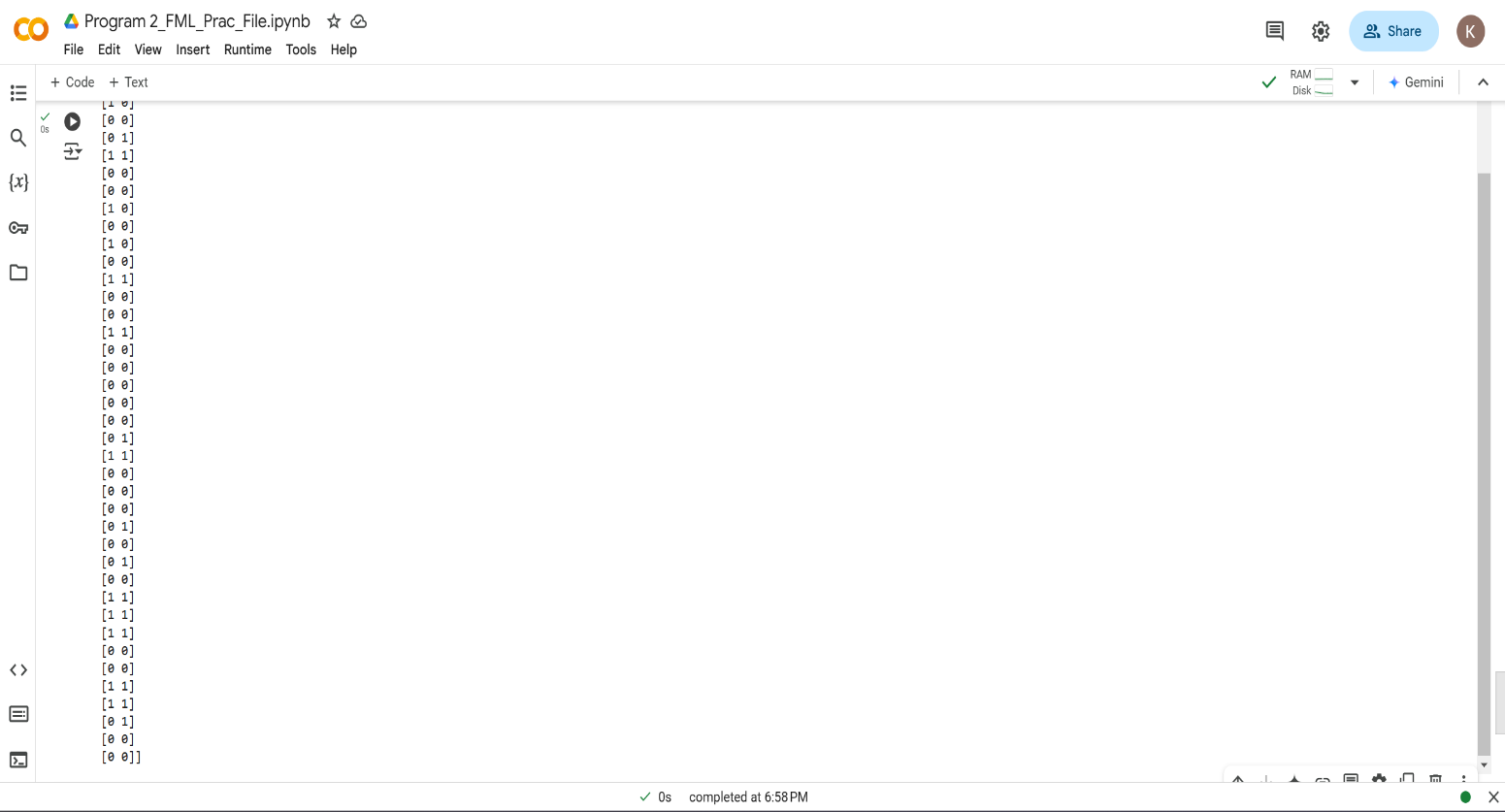
**Theory:**

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**Dataset:**

****

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**Learning Outcome:**

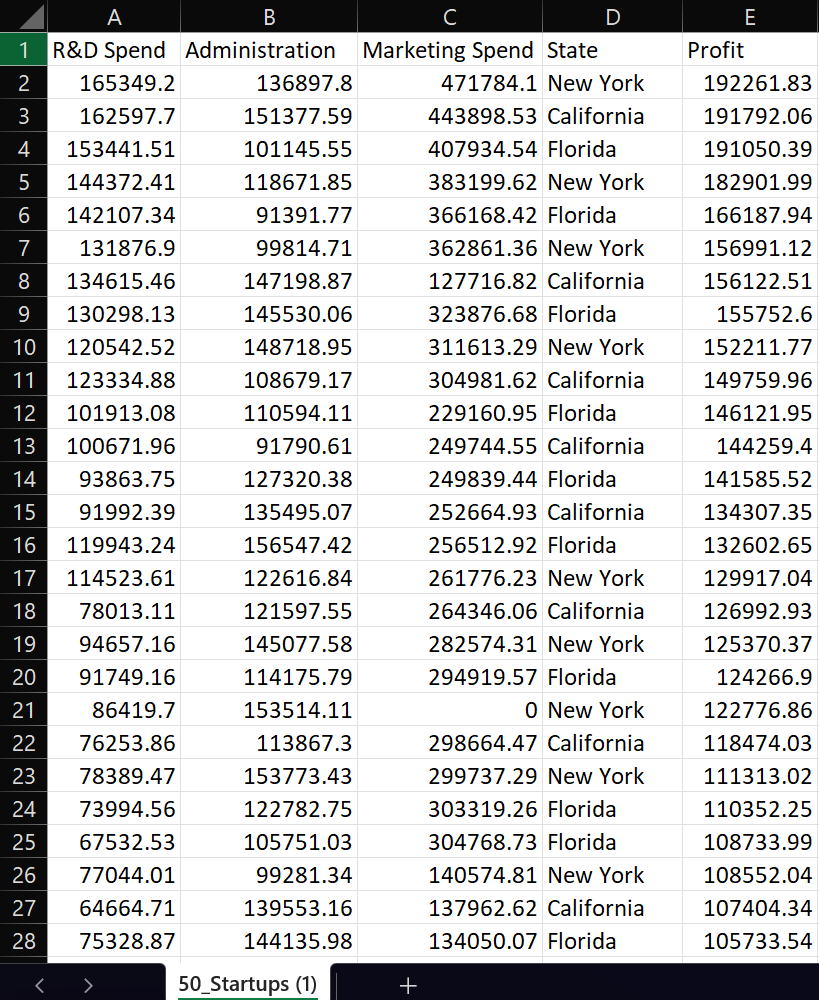
**EXPERIMENT 3**

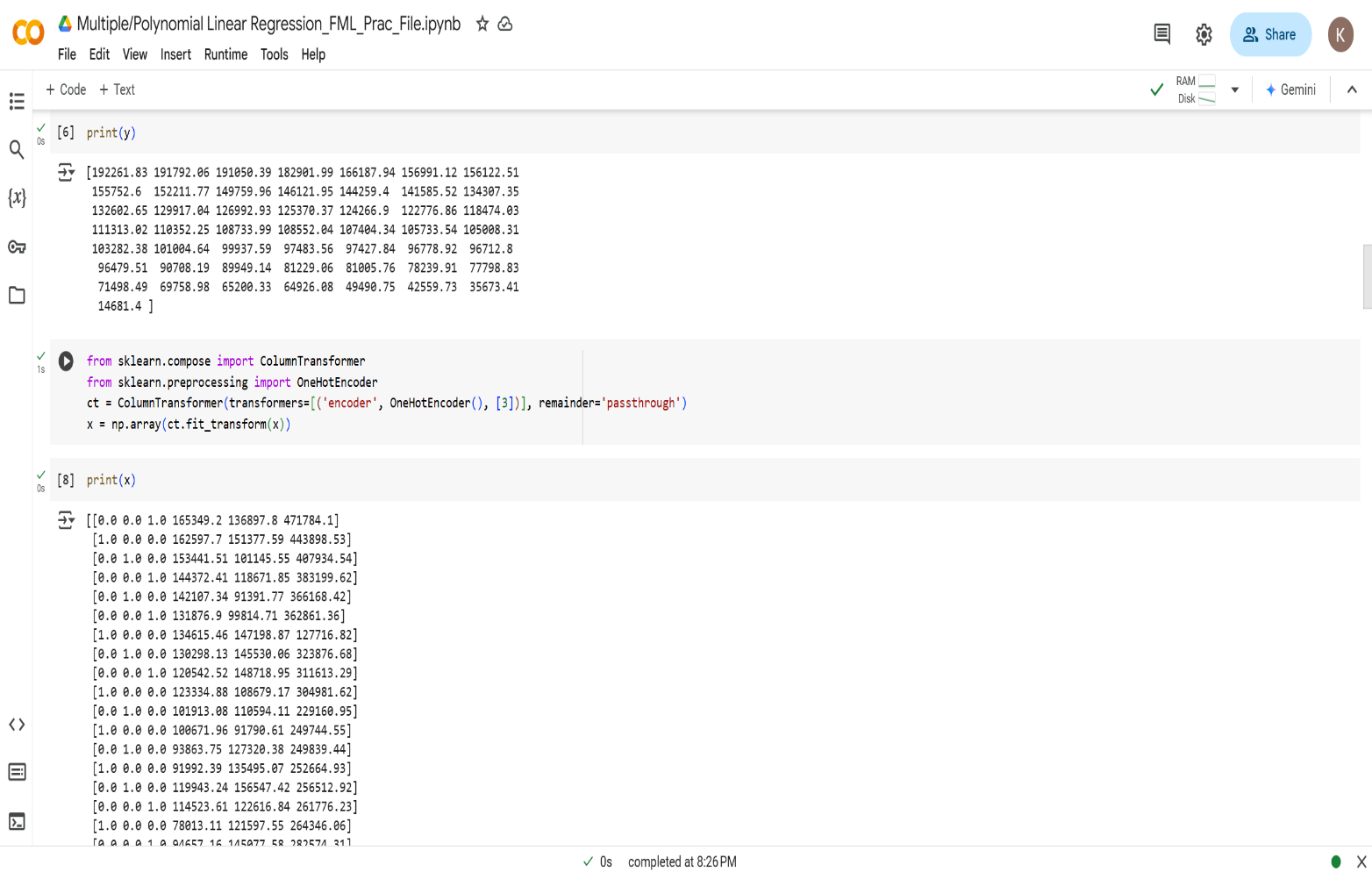
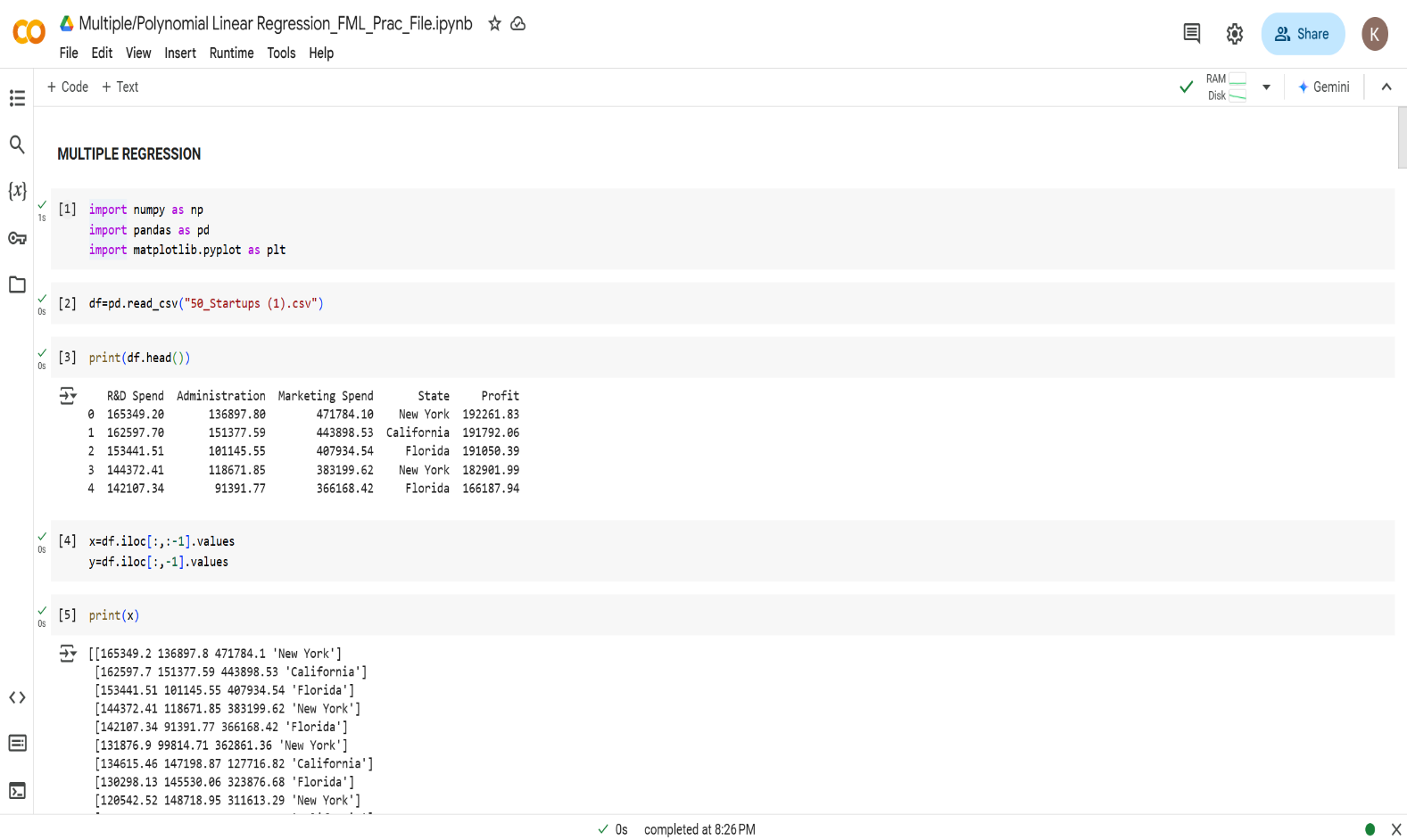
**(Beyond Curriculum)**

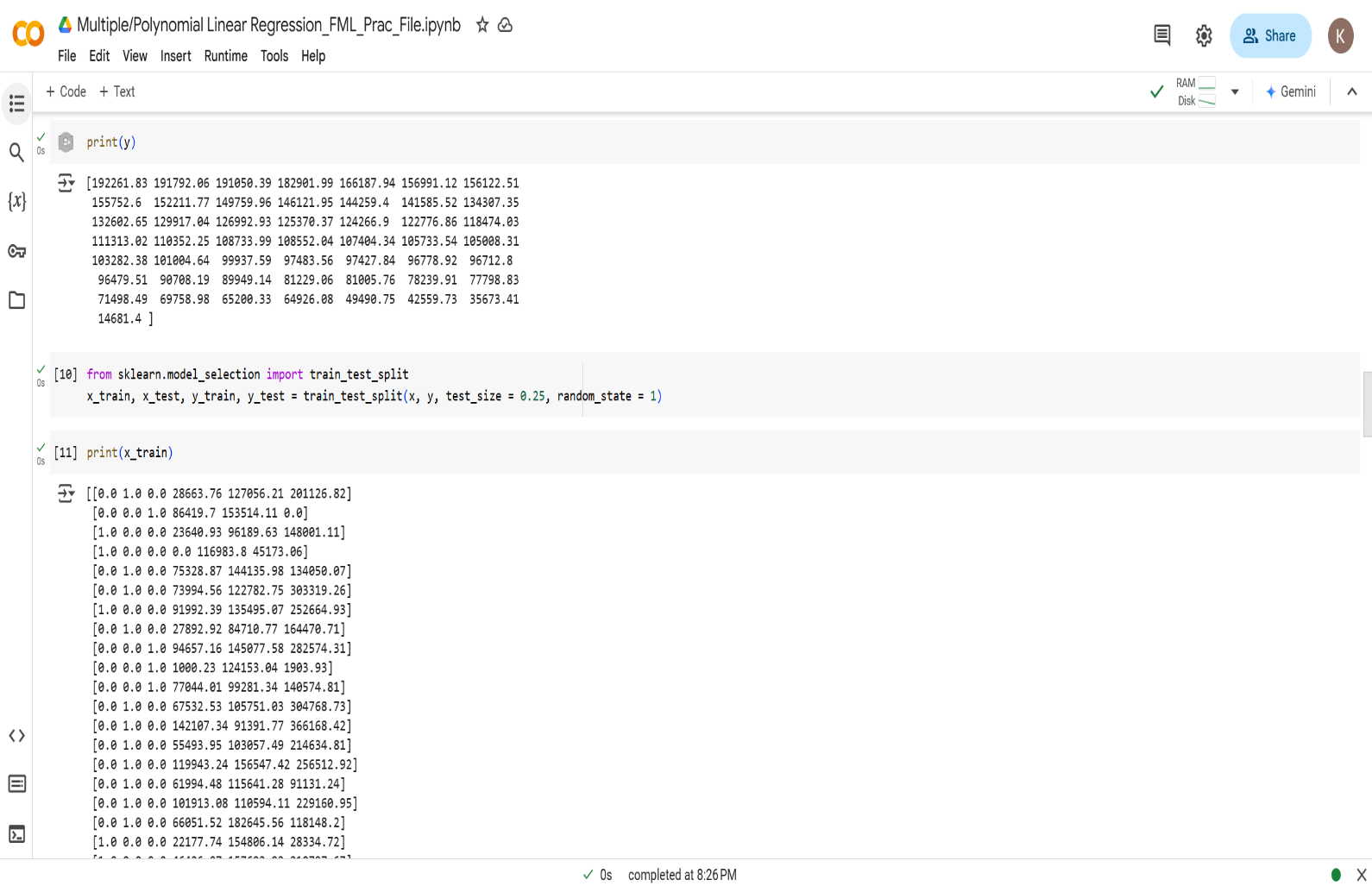
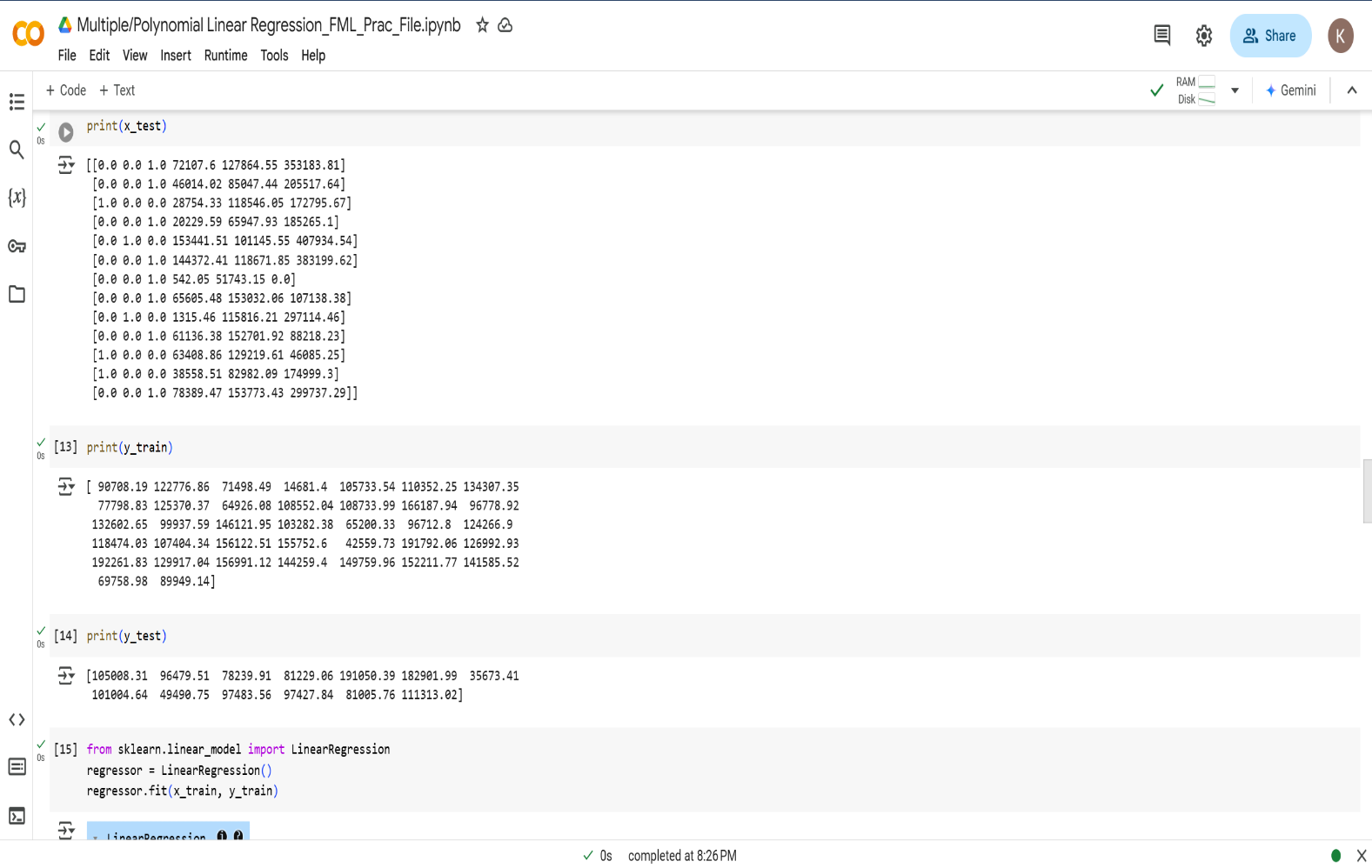
**Problem statement:** Study and implement Multiple Regression and Polynomial Linear Regression.

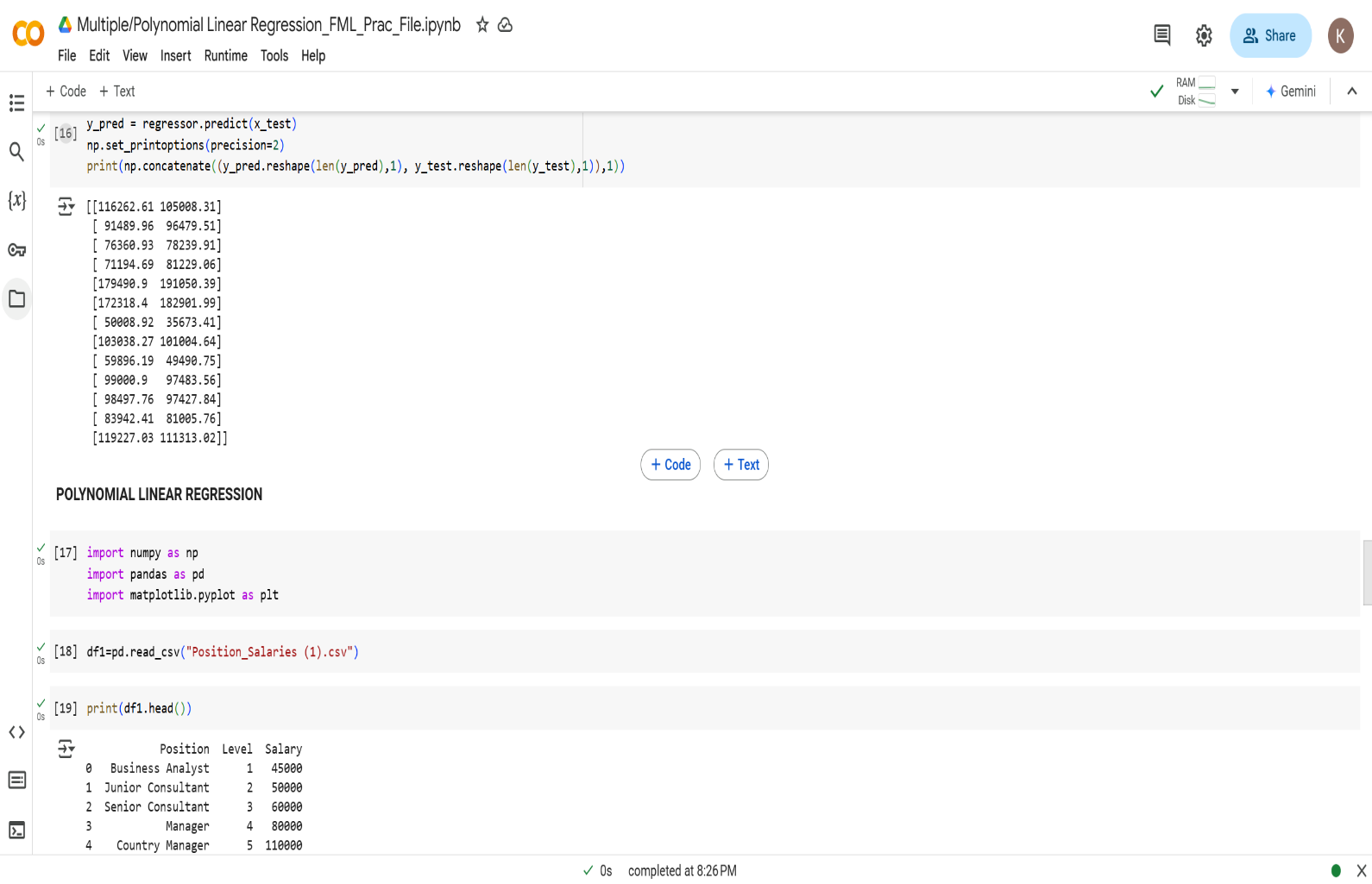
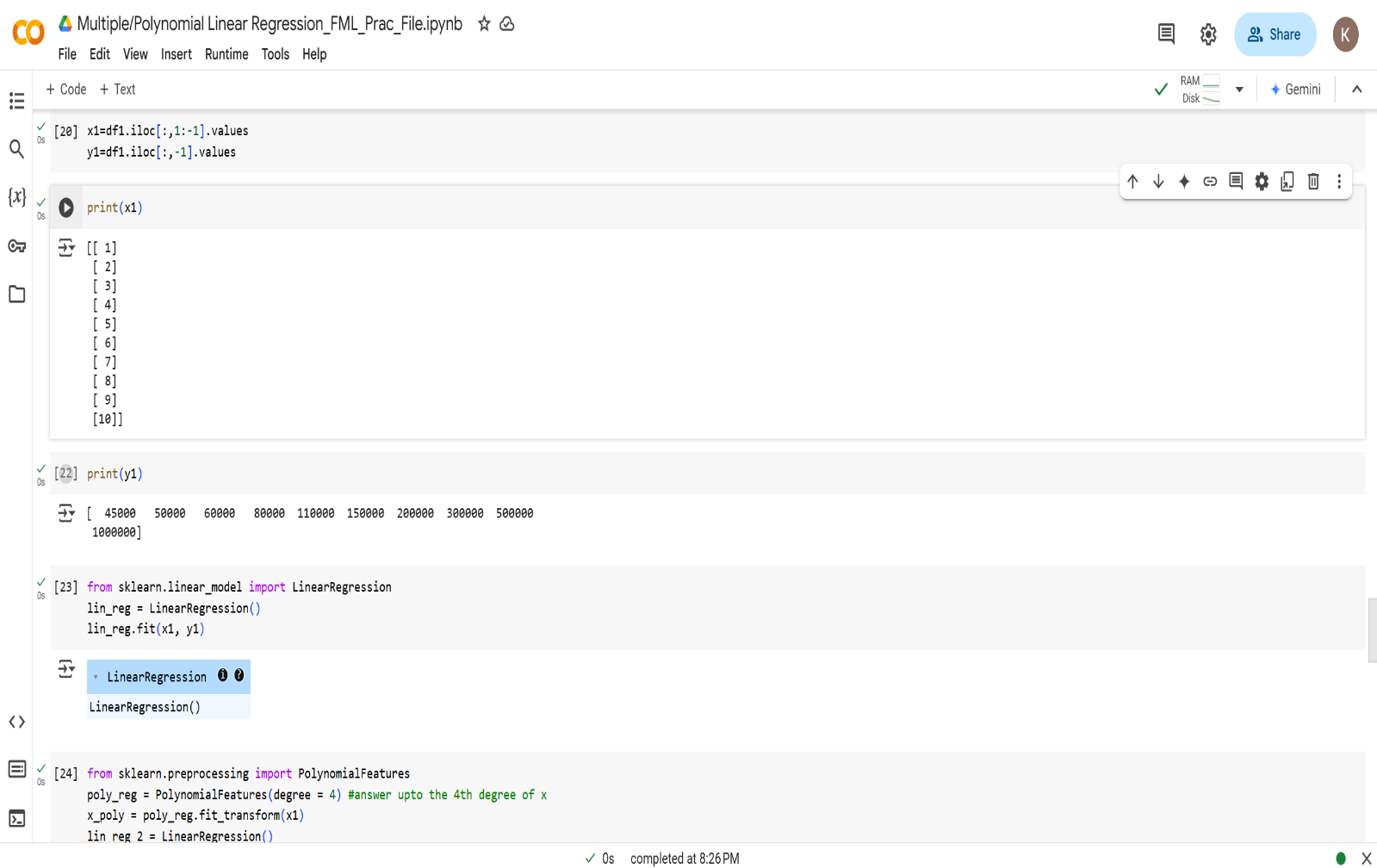
**Theory:**

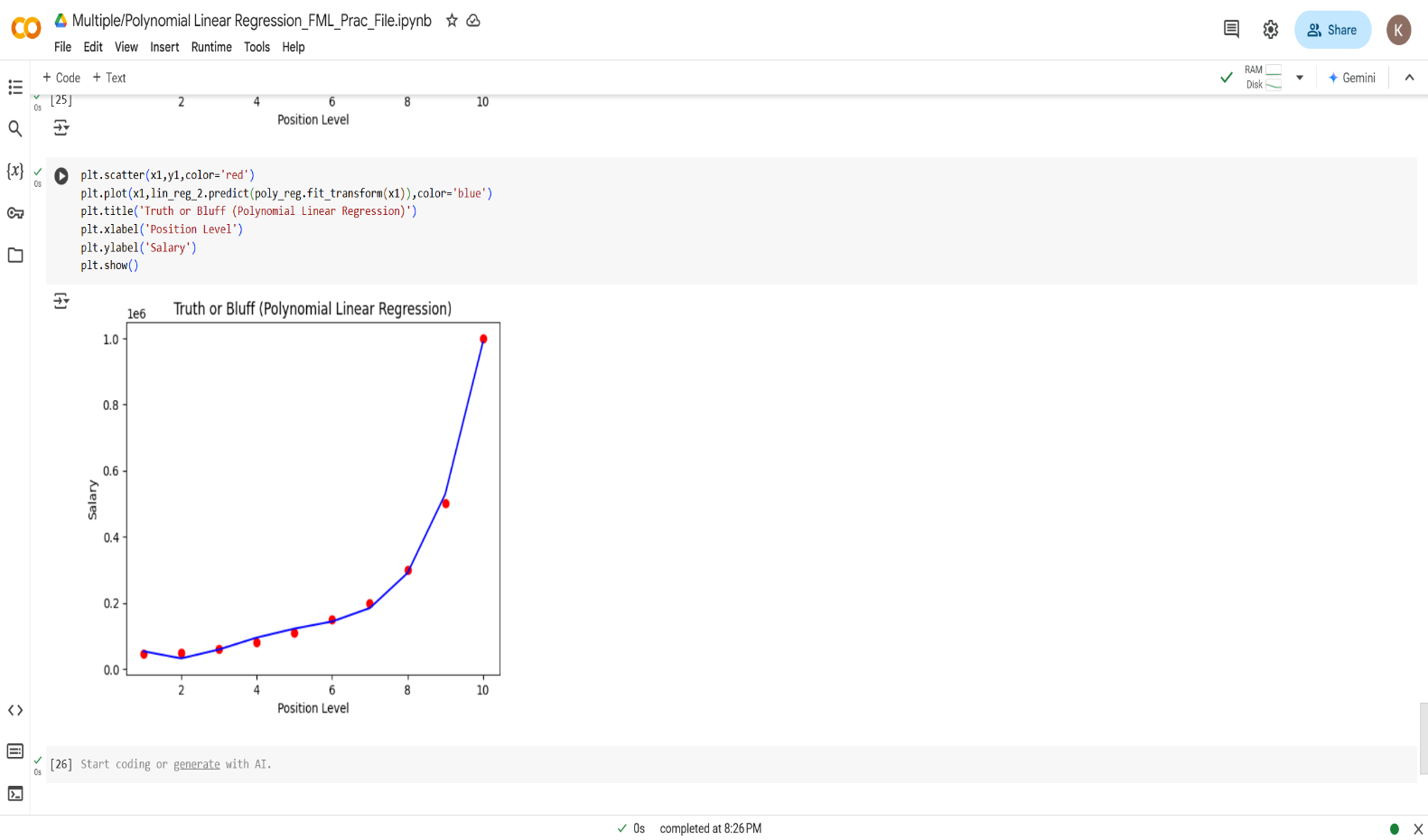
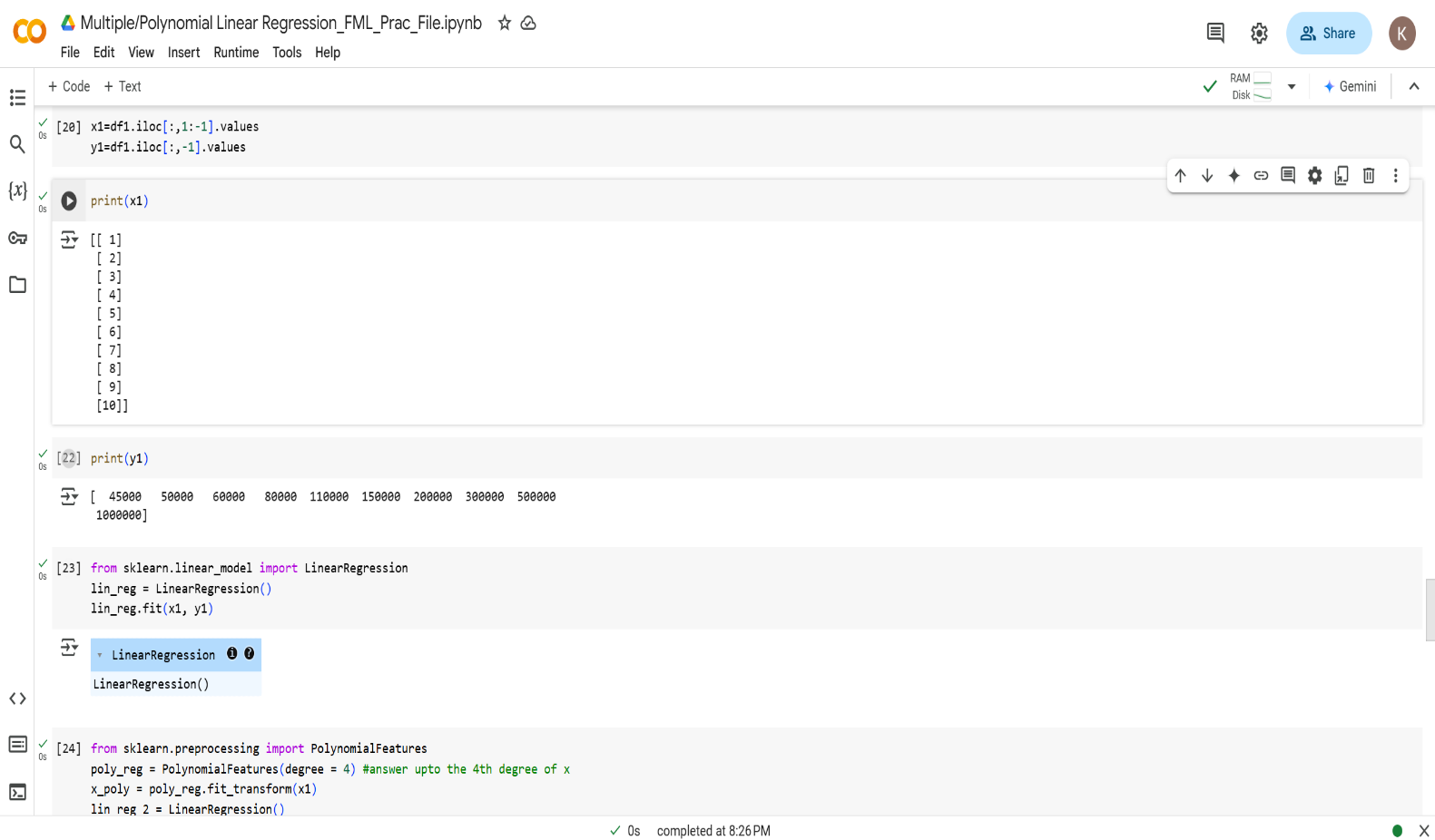
**Datasets:**

1. ****50\_Startups Dataset 2) Position\_Salaries Dataset

**Source Code with Outputs:**

****

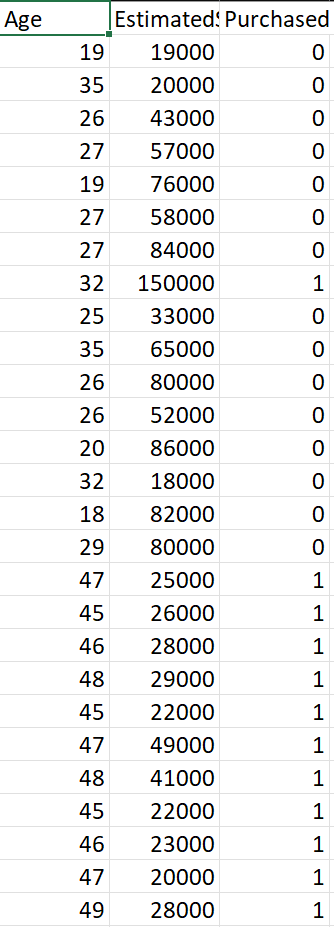
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**Learning Outcome:**

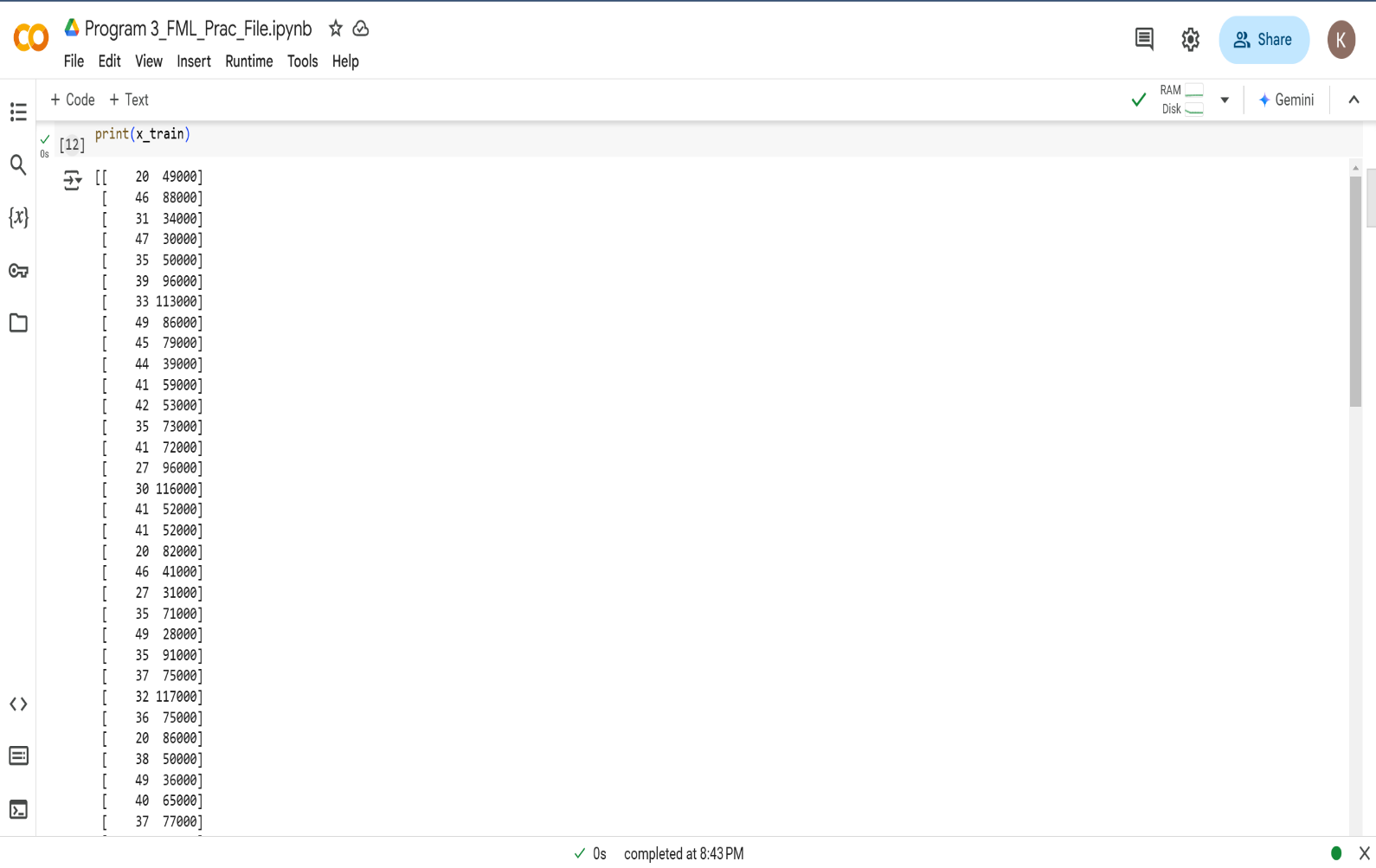
**EXPERIMENT 3**

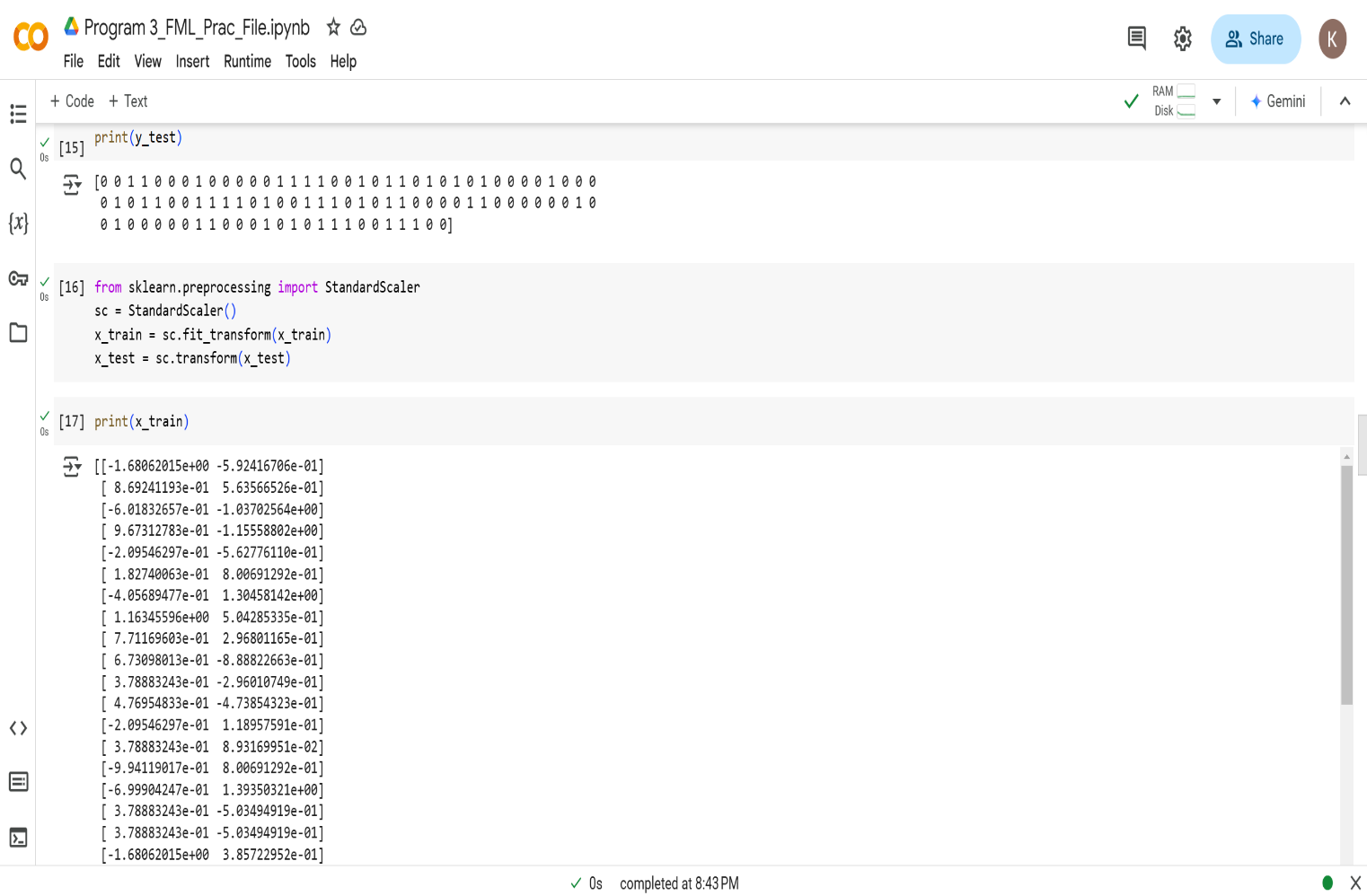
**Problem statement:** Study & Implement K-Nearest Neighbour (KNN).

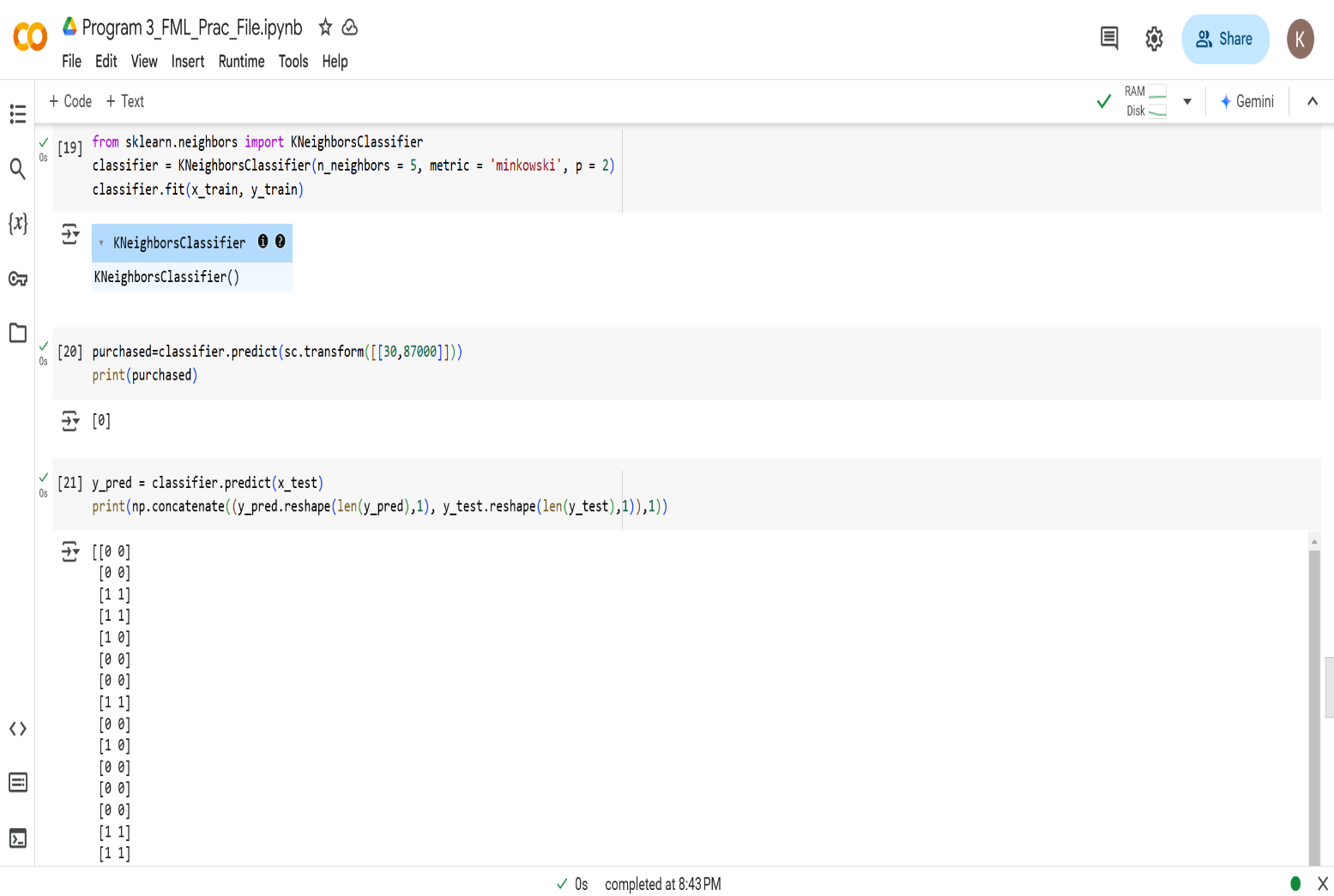
**Theory:**

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**Dataset:**

**Source Code with Outputs:**

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**Learning Outcome:**

**EXPERIMENT 4**

**Problem statement:** Study & Implement classification using SVM.

**Theory:**

**A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.Source Code with Outputs:**

**A screenshot of a computer

AI-generated content may be incorrect. A screenshot of a computer

AI-generated content may be incorrect.**

**A white rectangular object with black lines

AI-generated content may be incorrect. A screenshot of a computer

AI-generated content may be incorrect.Learning Outcome:**

**EXPERIMENT 5**

**Problem statement:** Study & Implement Bagging using Random Forests.

**Theory:**

**A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.Source Code:**

**A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.**

**A white rectangular object with black lines

AI-generated content may be incorrect. A screenshot of a computer

AI-generated content may be incorrect.Learning Outcome:**

**EXPERIMENT 6**

**Problem statement:** Study & Implement Naïve-Bayes.

**Theory:**

A screenshot of a computer

AI-generated content may be incorrect.**A screenshot of a computer

AI-generated content may be incorrect.Source Code with Outputs:**

A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.

**A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.Learning Outcome:**

**EXPERIMENT 7**

**Problem statement:** Study & Implement Decision Trees.

**Theory:**

A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.**Source Code with Outputs:**

A screenshot of a computer

AI-generated content may be incorrect.A white rectangular object with a black border

AI-generated content may be incorrect.

**A white rectangular object with black lines

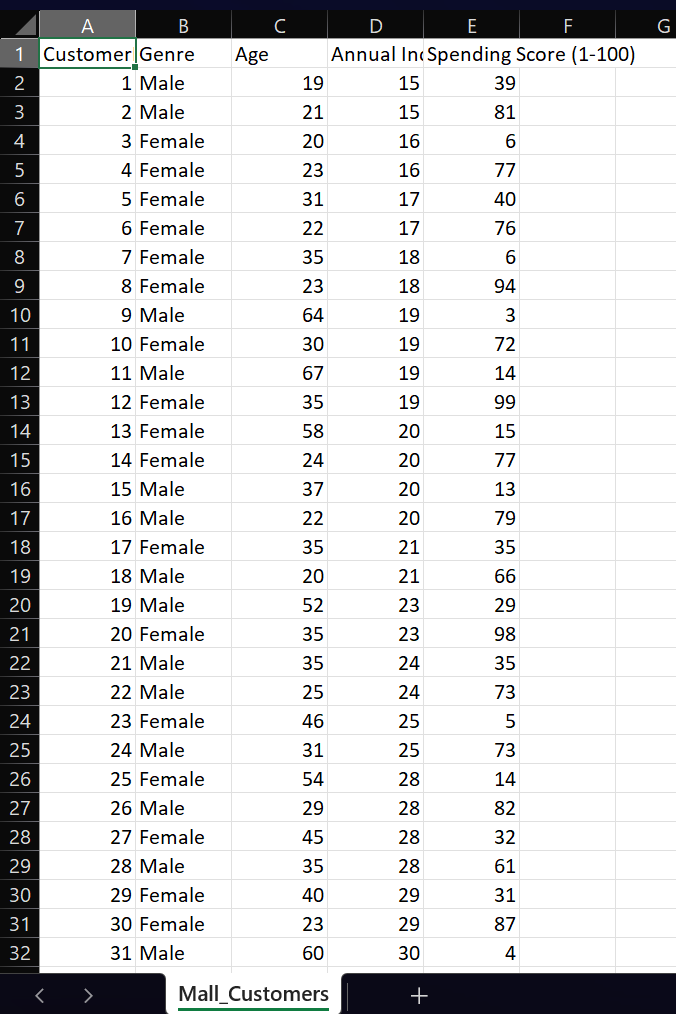
AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.Learning Outcome:**

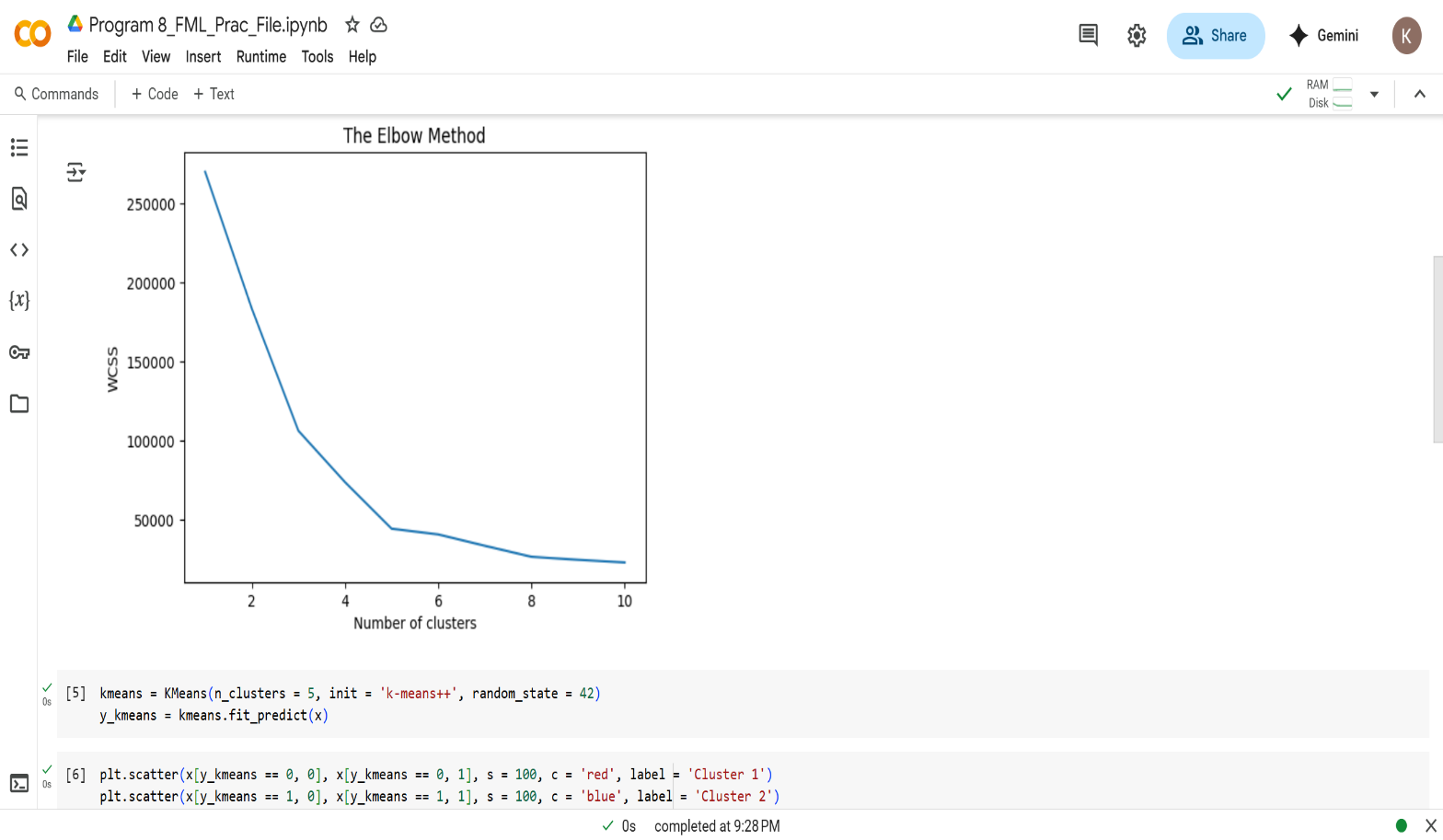
**EXPERIMENT 8**

**Problem statement:** Study & Implement K- Means Clustering to find natural patterns in Data.

**Theory:**

**Dataset:**

**Source Code and Output:**

** Learning Outcome:**