



TAGORE ENGINEERING COLLEGE

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Department of Computer Science and Engineering

FACULTY NAME: M. MANJU, ASSISTANT PROFESSOR, DEPT OF CSE

SUBJECT NAME: FOUNDATIONS OF DATA SCIENCE

Gamification-Data Science Escape Room

Objective:

Students will solve data science problems and puzzles to “escape” from a simulated scenario, integrating fundamental concepts in a fun and challenging way.

Setup:

- Create a series of puzzles or challenges related to key data science concepts (e.g., data cleaning, exploratory data analysis, statistical inference).
- Each puzzle solved provides a clue or code to unlock the next stage.

Data Science Escape Room Puzzles: Exploration and Analysis

Puzzle 1: The Missing Data

Scenario: A dataset is missing a crucial column.

Puzzle: Provide clues or riddles that lead the participants to identify the missing column based on the existing data.

Puzzle 2: The Outlier Enigma

Scenario: A dataset contains an outlier that is skewing the results.

Puzzle: Create a puzzle where participants must identify the outlier using statistical methods or visualization techniques.

Puzzle 3: The Correlation Conundrum

Scenario: Participants must determine the correlation between two variables in a dataset.

Puzzle: Provide a riddle or puzzle that requires participants to use statistical analysis to find the correlation.

Puzzle 4: The Classification Challenge

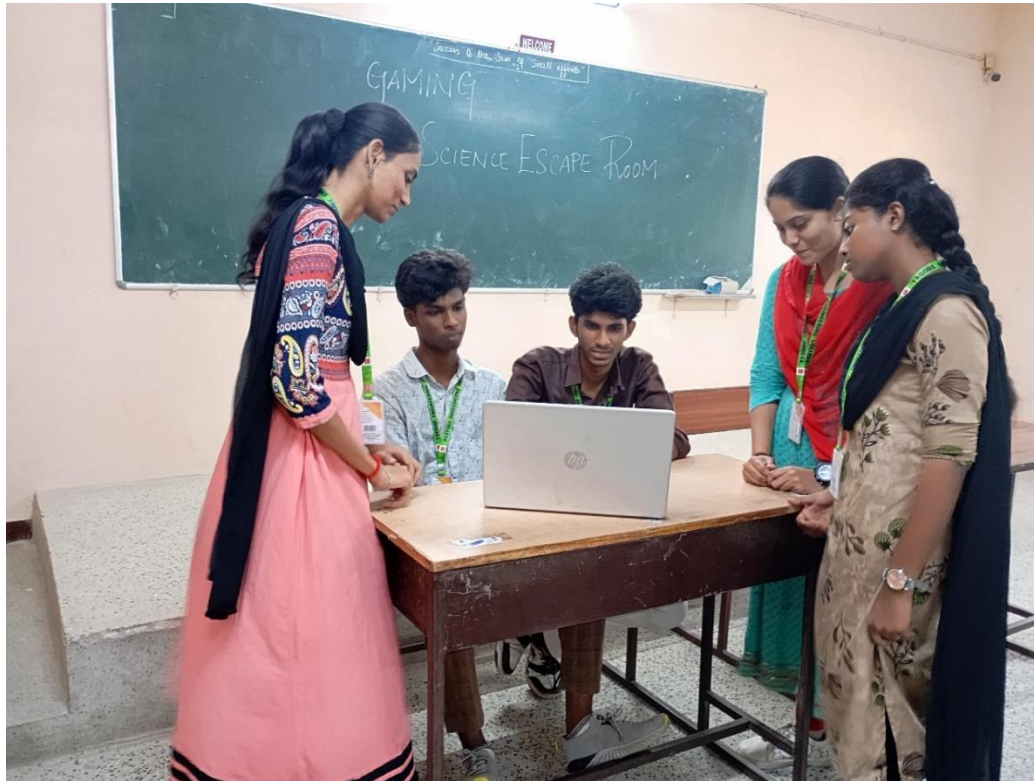
Scenario: Participants need to classify data points into two categories.

Puzzle: Create a puzzle where participants must use machine learning algorithms or statistical methods to build a classification model.

Puzzle 5: The Time Series Twist

Scenario: Participants must analyze a time series dataset to identify trends or patterns.

Puzzle: Create a puzzle that requires participants to use time series analysis techniques to uncover hidden insights.



Execution:

1. **Scenario Introduction:** Present a narrative, such as escaping from a virtual room where data science skills are needed to progress.
2. **Puzzle Solving:** Students work in teams to solve each puzzle using data science techniques. For example, they might analyze a dataset to find hidden patterns or use statistical methods to answer questions.
3. **Debrief:** Discuss the challenges faced and the data science concepts applied.

Benefits: Engages students through a narrative-driven, hands-on experience, and reinforces foundational concepts in a memorable way.