**ICT10020 - Systems Thinking with Technology**

**Assignment 1: Procedural Python Programming**

1. **Team Members:**

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* Challayamma (Chandu) Kotikalapudi

1. **Manually Generate a Table of Data (.csv)**

**Filename:** students.csv (uploaded separately)  
**CSV Contents:**

|  |
| --- |
| student\_id,name,email,year,course,qualification,study\_mode,fees 106050,Chandu,chandu@gmail.com,2025,Computers,Master,Online,20000 106051,Arpitha,arpitha@gmail.com,2025,Data Science,Bachelor,Campus,25000 106052,srikar,srikar@gmail.com,2025,Arts,Bachelor,Online,25000 106053,srinika,srinika@hotmail.com,2025,Law,Diploma,Campus,15000 106054,riyansh,riyansh@outlook.com,2025,Cybersecurity,Certificate,Campus,8000 106055,rishik,rishik@gmail.com,2025,Arts,Diploma,Online,10000 106056,murali,murali@gmail.com,2025,Animation,Advanced Diploma,Campus,20000 106057,deepu,deepu@outlook.com,2025,Health,Master,Online,25000 |

**3: Parallel Arrays and Reading CSV**

Python Code Snippet: import csv # In order to handle reading data, import the CSV module.  
# Global parallel arrays to hold various student data fields  
student\_id = [] # Student numbers are stored as integers.  
name = [] # stores Student names.  
email = [] # stores email id of students  
year = [] # stores year of enrolment  
course = [] # stores course/module names  
qualification = [] # Stores level of study (e.g., Diploma, Bachelor)  
study\_mode = [] # stores learning modes, like as on-campus and online.  
fees = [] # Stores fees as integers  
  
def load\_data(filename):  
 *""" loads student data into the parallel arrays from the designated CSV file.  
 There is a header row in the CSV file that will be skipped."""* with open(filename, newline='') as file:  
 reader = csv.reader(file)  
 next(reader) # Skip header row  
 # Append values to the respective arrays by iterating through each row.  
 for row in reader:  
 student\_id.append(int(row[0])) # Convert student ID to int  
 name.append(row[1]) # Student name  
 email.append(row[2]) # Email ID  
 year.append(int(row[3])) # Enrolment year as int  
 course.append(row[4]) # Course/module name  
 qualification.append(row[6]) # Level of study  
 study\_mode.append(row[5]) # Mode of delivery  
 fees.append(int(row[7])) # Fees as int

**4: Formatted Display**def display\_table():  
 *""" Displays the student data in formatted table. """* # Print the table header  
 print(f"{'ID':>7} | {'Name':<10} | {'Email':<25} | {'Year':>4} | {'Course':<15} | {'Qualification':<18} | {'Mode':<10} | {'Fees':>6}")  
 print("-" \* 120)  
 # Print all student's data row by row  
 for i in range(len(student\_id)):  
 print(f"{student\_id[i]:>7} | {name[i]:<10} | {email[i]:<25} | {year[i]:>4} | "  
 f"{course[i]:<15} | {study\_mode[i]:<18} | {qualification[i]:<10} | {fees[i]:>6}")

# Entry point for testing the program

if \_\_name\_\_ == "\_\_main\_\_":

load\_data("students.csv")

display\_table()

**5: Demonstration Notes**

All required files have been submitted, including:

* **Python source code (final.py)**
* **Data file (students.csv)**

Python script reads data from the CSV file and displays it in a properly formatted table using parallel arrays.

Demonstration of Editing the CSV: To demonstrate the prototype functionality we added one record manually to the students.csv file

106058,agastya,agastya@gmail.com,2025,Arts,Diploma,Campus,15000

Output Verification:

**6. Main Menu Interface in Functions -** uploaded final.py

**7. Git and Github Screenshots**

Chandu Commit setup screenshots A screenshot of a computer program

AI-generated content may be incorrect.

Arpitha Commit setup screenshot -

A screen shot of a computer

AI-generated content may be incorrect.



A computer screen shot of a program code

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Chandu and Arpitha Commit Log

A screen shot of a computer code

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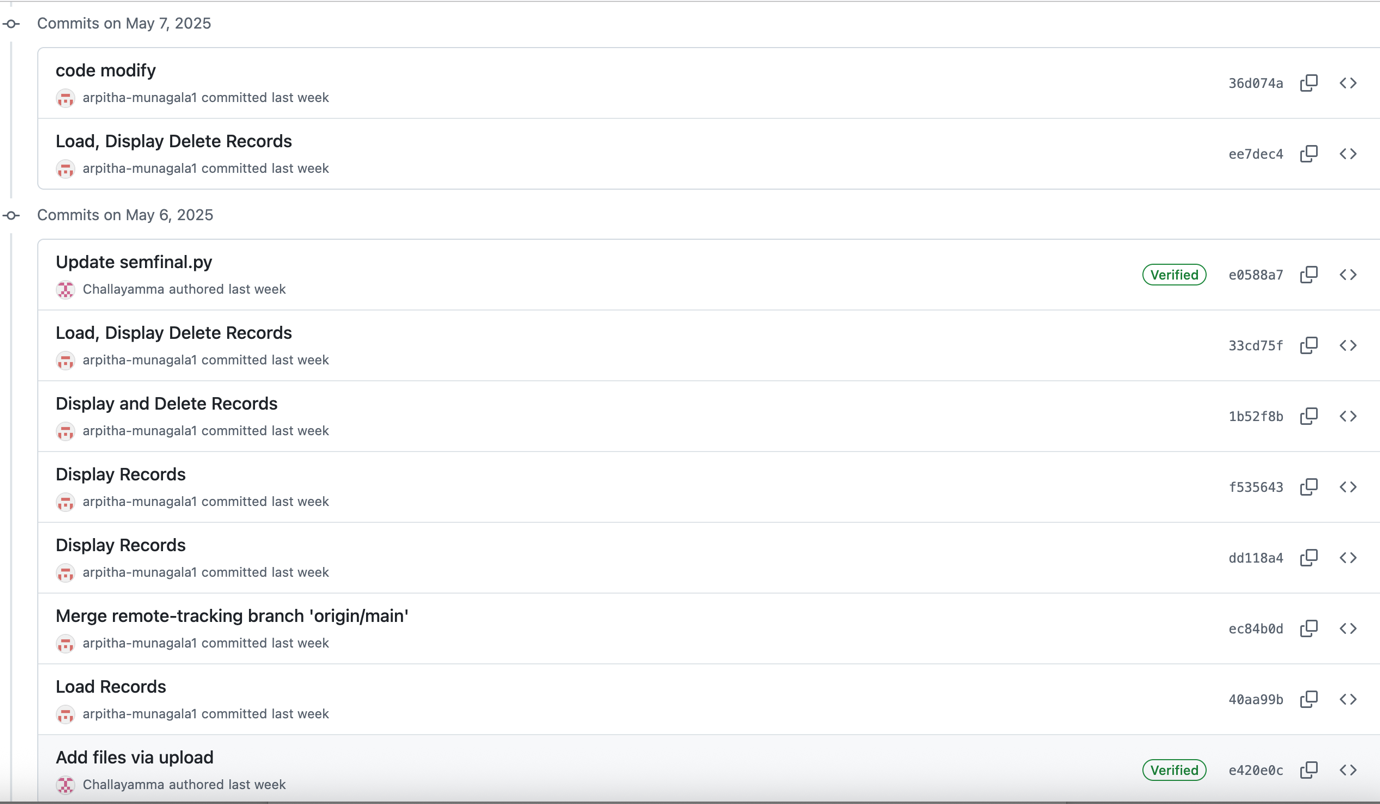
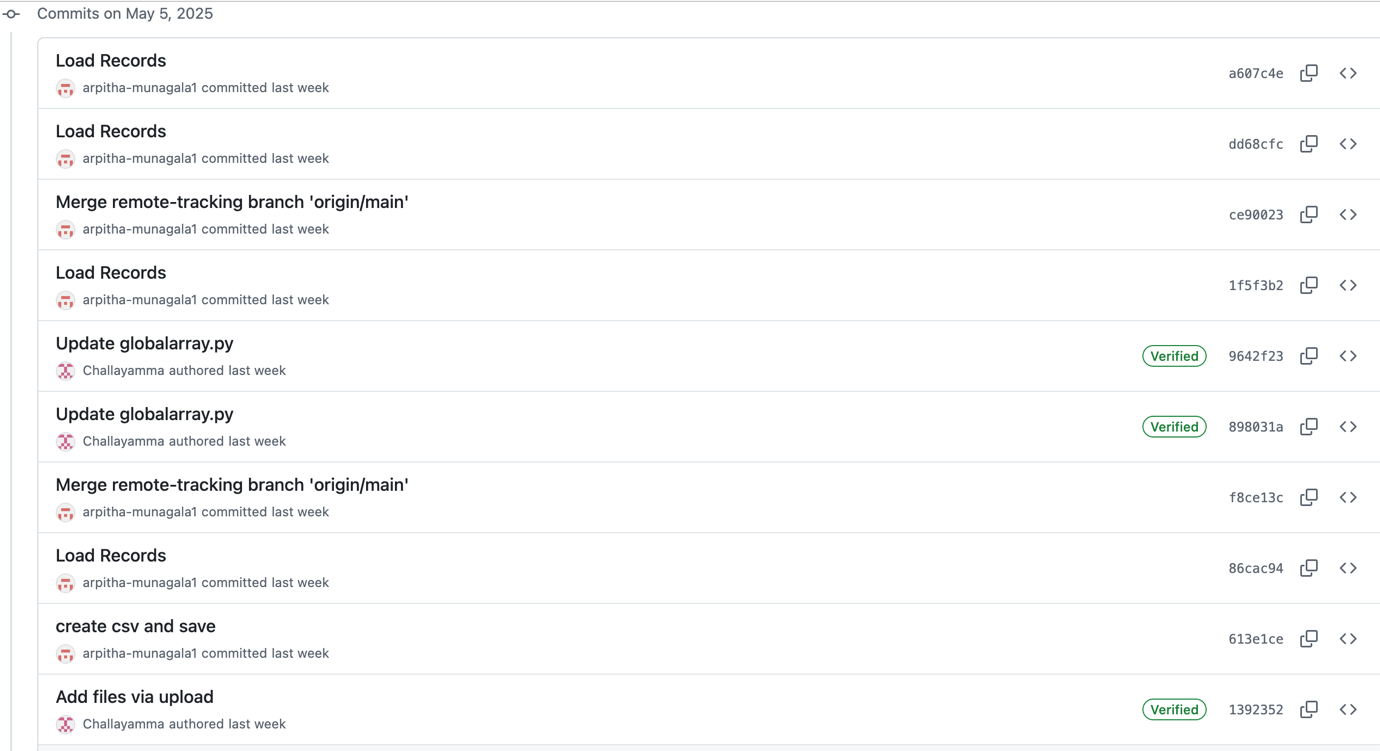
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A screenshot of a phone

AI-generated content may be incorrect.

A screenshot of a computer

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