Wellspring

Software Engineering Programming Exercise

Introduction

There are many train lines in the city of Chicago. The El is the quickest, the Metra is used to and from the suburbs, and the Amtrak crosses large distances. Your assignment is to write a program that reads in a 'comma separated values' (CSV) file containing train information and outputs the data to the user.

Input Details

- We have provided a CSV file with sample data in the following format:
  ```
  TRAIN_LINE, ROUTE_NAME, RUN_NUMBER, OPERATOR_ID
  El, Brown Line, E102, SJones
  Metra, UPN, M405, AJohnson
  Amtrak, Hiawatha, A006, LBeck
  ```

- Each row of the CSV will contain data for the following fields:
  - Train Line (El, Metra, Amtrak)
  - Route Name (i.e., Brown Line)
  - Run Number
  - Operator ID
- The first row of the CSV will always be a header row specifying the field names for each of the columns
- Each line of the CSV will end with a combination of a carriage return and a line feed:
  ```
  \r\n
  ```

Example of Expected Output

Train Line	Route	Run Number	Operator ID
El	Brown Line	E102	SJones
Metra	UPN	M405	AJohnson
Metra	UPN	M511	YSmith
Amtrak	Hiawatha	A006	LBeck
El	Red Line	E432	LHill
Amtrak	Hiawatha	A005	LBeck

Additional Requirements

- Allow users to upload the CSV file
- Display the data in the specified format as the content of a web page
- All entries displayed must be unique
- Output should be sorted in alphabetical order by Run Number

Bonus

- Add pagination controls which show 5 valid data items per page
- Add sorting by any column
- Set up CRUD (Create, Read, Update, Delete) functionality
- Set up hosting and provide a link along with your code

Notes

- We run a LAMP stack
- We use Git (GitHub)
- We use PHPUnit for our unit testing
- Use any technologies you please to accomplish these tasks but please try not to use a large framework, like Rails or Laravel, for this
  - We are trying to see how *you* think and not how a framework makes you do things
  - You can use simpler frameworks like Sinatra or Silex
- Please document any assumptions that make that you think will be important for us to know

Submission

Please send your project files or a link to a code repository along with instructions on how to install or run the application.