

**T Level Technical Qualification in Digital, Digital Production, Design
and Development (Level 3)**

Thursday 17 November 2022

Time 4 hours

**Paper
reference**

19538

Core: Employer Set Project
Task 4a: Developing a solution

You must have:

Task4a_data.csv, Task4a_Elanp_dashboard.py

Information

- This booklet contains material for the completion of the set task under supervised conditions.
- This booklet is specific to each series and this material must only be issued to students who have been entered to undertake the task in the relevant series.
- This booklet must be kept securely until the start of the timetabled assessment.

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Instructions for students

You must complete the activity within the assessment.

The task must be undertaken at the time and on the date specified by Pearson.

You will be given four hours for producing the outcomes for this task.

Your centre will advise you of when any supervised breaks have been scheduled.

The task must be completed under supervised conditions.

You are **not** permitted access to the internet during this task.

You are provided with these files for use during this task:

- Task4a_data.csv
- Task4a_Elanp_dashboard.py

Your work and any material provided must be kept securely at all times.

Set Task Brief

The design ideas for the solution that you worked on in Task 3 have been reviewed by your manager.

A Senior Developer has coded the solution and your manager has presented it to Elanp Air.

Since then, Elanp Air has requested some additional functionality to be added to further develop the solution.

Activity

The file *Task4a_data.csv* contains the data that will be used by the solution.

The file *Task4a_Elanp_dashboard.py* contains the code that the Senior Developer has produced.

Develop the programming code for the data service so that it meets the new system and user requirements provided in the Set Task Information.

During development of the solution make sure that you:

- consider the security requirements and use secure coding principles and practices to mitigate against potential threats and vulnerabilities
- ensure that your code is maintainable, readable and functional
- follow accepted programming conventions.

During this task you do **not** need to formally document your testing.

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Outcomes for submission

Save your code as PDFs and as .txt files.

Save a working version of your solution as a .py file.

All files should be saved in your folder for submission.

Use this naming convention:

- Task4acode [doc#]_[Registration number]_[surname]_[first letter of first name]

You may use any appropriate folder structure and naming convention to save the working version of the solution.

Set Task Information

Elanp Air has provided the new system requirements. These are:

- The existing code provided allows users to select a flight route and show the trends for passenger numbers over time.
- The solution must also identify trends and patterns over time for:
 - AM and PM flights for two selected routes
 - the departure airport that has the most passengers over time.
- The solution must be secure.

Elanp Air has also provided user requirements for the solution. These are:

- be easy to use
- display information in a meaningful way
- make use of appropriate textual, numerical and graphical output in a way that would be relevant to the end user.

Note – data shows the number of passengers for each individual flight between two airports.