



Cambridge International AS & A Level

INFORMATION TECHNOLOGY

9626/04

Paper 4 Advanced Practical

October/November 2023

2 hours 30 minutes

You will need: Candidate source files (listed on page 2)

INSTRUCTIONS

- Carry out every instruction in each task.
- Save your work using the file names given in the task as and when instructed.
- You must **not** have access to the internet or any email system during this examination.
- You must save your work in the correct file format as stated in the tasks. If work is saved in an incorrect file format, you will **not** receive marks for that task.

INFORMATION

- The total mark for this paper is 90.
- The number of marks for each question or part question is shown in brackets [].

This document has **8** pages.

You have been supplied with the following source files.

Castle.jpg
F2uF.ods
F2uF.rtf
HarbourView.jpg
Ocean.jpg
TH.js
TreeHeight.html
Trig.png

Create a folder called **Examination**.

You must save all your work in this folder.

Copy the source files into this folder.

Do **not** delete these files when submitting your work.

You must use the most efficient methods to solve each task. All work produced must be of a professional standard and contain your candidate details.

Task 1

You will use **Castle.jpg** and **Ocean.jpg** to create this image.



The image must contain **3** layers. You must save each layer as a separate image.

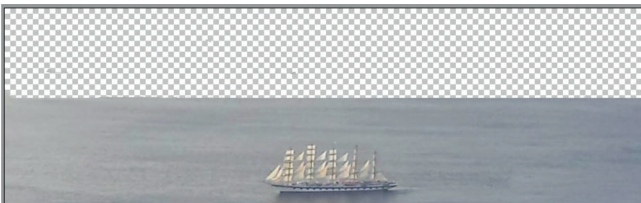
Open *Castle.jpg* in a photo editing application. Remove part of the view so that the background is transparent as shown.



Save the image as **CastleLayer_** followed by your centre number_candidate number
e.g. CastleLayer_ZZ999_9999

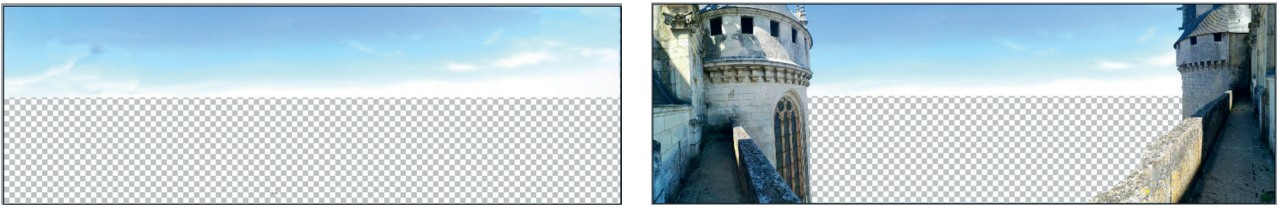
Edit *Ocean.jpg* to create another layer that will fit with the *CastleLayer*.

Make sure the sizes and proportions match as shown.



Save the image as **OceanLayer_** followed by your centre number_candidate number
e.g. OceanLayer_ZZ999_9999

Edit *Castle.jpg* to create a layer for the sky that will fit with the *CastleLayer*.



Save the image as **SkyLayer_** followed by your centre number_candidate number
e.g. SkyLayer_ZZ999_9999

Combine the **3** layers to create this image.



Save this as **3LayerImage_** followed by your centre number_candidate number
e.g. 3LayerImage_ZZ999_9999

[20]

Task 2

Open **F2uF.ods** in your spreadsheet application.

The workbook contains data on customers and orders for a fast-food delivery service.

Examine each worksheet.

- The **Customers** worksheet lists all the customers that have ever used the service and shows which customers have an account that enables them to pay their bill at the end of the month.
- The **April_Orders** worksheet lists all the orders placed by the account holders in April.
- The **1st_quarter_accounts** worksheet lists the account holder payments for January to March.

You are required to mail merge letters to account holders giving details of the amount each one owes. Examine the mail merge template **F2uF.rtf** to determine what data you will need in order to complete the merge.

Use a database to generate a list of recipients for the mail merge.

Name the database **F2uF_Accounts_** followed by your centre number_candidate number
e.g. F2uF_Accounts_ZZ999_9999

Follow these rules to display the conditional text.

Letters to customers who have **not** paid their March bill should include the following text:

Your March account bill of £<Insert amount owed for March here> remains unpaid.

Your April account stands at £<Insert amount owed for April here>.

Your total bill is therefore £<insert total owed here>. Please pay this amount immediately since we can no longer accept your orders.

Letters to customers who have paid their March bill should include the following text:

Your April bill is £<insert amount owed for April here>. We would be grateful if you could settle the account as soon as possible.

Save the merge document as **F2uFmergedoc_** followed by your centre number_candidate number
e.g. F2uFmergedoc_ZZ999_9999

Mail merge the letters to only those customers who have **not** paid their March bill.

Save the merged letters as **MarchLetters_** followed by your centre number_candidate number
e.g. MarchLetters_ZZ999_9999

Mail merge the letters to only those customers whose total April bill is more than £300.

Save the merged letters as **April300Letters_** followed by your centre number_candidate number
e.g. April300Letters_ZZ999_9999

[30]

Task 3

You will create an animation to give the impression of viewing a harbour scene through a telescope.

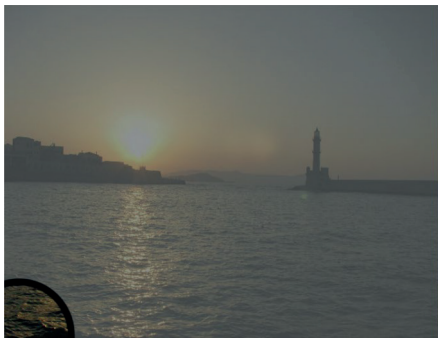


Set a frame size of 640 pixels wide by 480 pixels high and use **HarbourView.jpg** as the background.

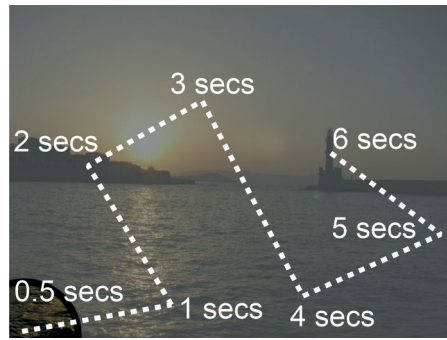


Create a circular telescope view as shown. The view outside the telescope must be partially obscured using a mask like this.

Create an animation as follows:



The telescope view must appear from the bottom left corner after 0.5 seconds.

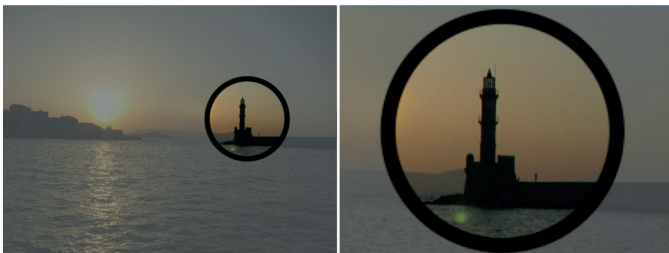


The telescope view must then take 6 seconds to follow this path and end showing the lighthouse.



Start
→
 End

The view must then take 2 seconds to zoom in smoothly until the telescope view fits the stage as shown.

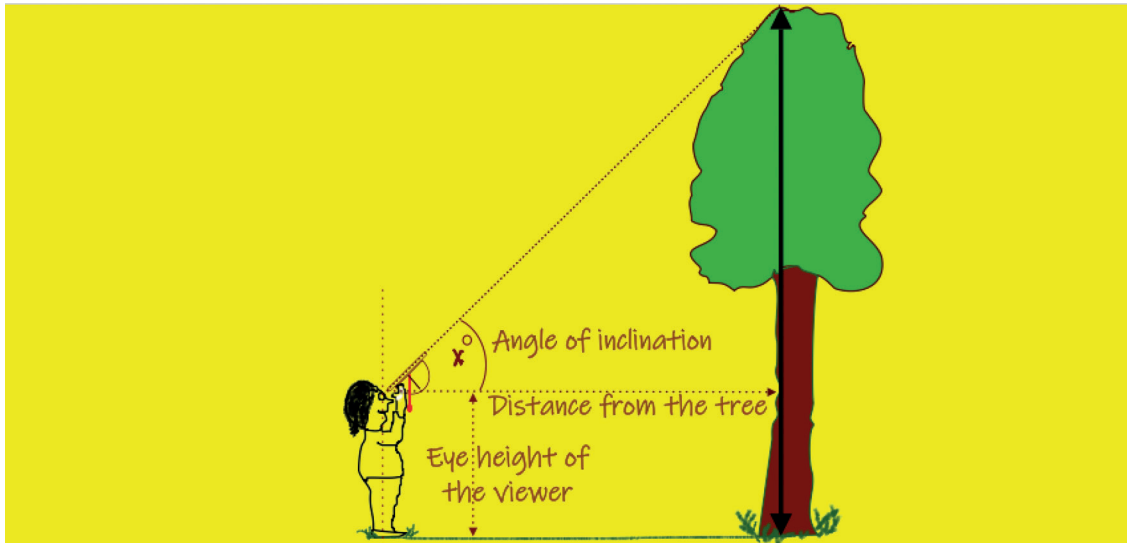


Save the animation as an **animated gif** file named **TelescopeView_** followed by your centre number_ candidate number
 e.g. TelescopeView_ZZ999_9999

[20]

Task 4

Open **TreeHeight.html** in a web browser.



(AngleFactor * Distance from tree) + Eye height of the viewer = HEIGHT OF THE TREE

Angle of inclination (in degrees)	Distance from tree (in metres)	Eye height of viewer (in metres)
<input type="text"/>	<input type="text"/>	<input type="text"/>
degrees	m	m
<input type="button" value="Click to calculate the height of the tree"/>		
<input type="text"/>		

The web page will enable a user to calculate the height of a tree.

The user will enter their eye height, the angle of inclination and their distance from the tree.

The calculation is:

$$(\text{AngleFactor} * \text{distance from tree}) + \text{eye height of the viewer} = \text{Height of the tree}$$

The value of *AngleFactor* is provided for you in the file **TH.js**

Open *TreeHeight.html* and *TH.js* in a text editor.

Amend the *TreeHeight.html* page to use the *TH.js* script.

Complete the `calculate()` function in `TH.js`

The formula for the variable '`AngleFactor`' has been included.

Add statements to finish the calculation of the height of the tree and display the result where shown.
Save the `TH.js` file with the same name.

Add a button under the table on the web page to clear all the data from the page.

Amend your script to round all the results to a maximum of 1 decimal place.

The screenshot shows a web page with a yellow background. At the top, there are three labels in red: "Angle of inclination (in degrees)", "Distance from tree (in metres)", and "Eye height of viewer (in metres)". Below each label is a text input field with a dropdown arrow on the right. The first field contains "25" and "degrees", the second contains "4" and "m", and the third contains "1.8" and "m". Below these fields is a button with the text "Click to calculate the height of the tree". Below the button is a large rectangular box with a red border containing the text "The height of the tree is 3.7 metres" in red. At the bottom of the page is another button with the text "Click to enter new data".

Save the web page as **TreeHeight_** followed by your centre number_candidate number
e.g. `TreeHeight_ZZ999_9999`

[20]

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