Cambridge International AS & A Level

INFORMATION TECHNOLOGY **9626/04**

Paper 4 Advanced Practical **October/November 2020**

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 you save work in an incorrect file format, you will **not** receive marks for that task.

INFORMATION
- The total mark for this paper is 110.
- The number of marks for each task or part task is shown in brackets [ ].

This document has **8** pages. Blank pages are indicated.

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© UCLES 2020 **[Turn over**

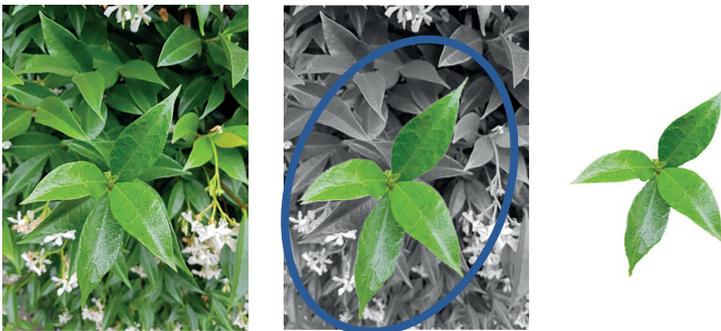You have been supplied with the following source files:

Bush.jpg
Branches.png
Artists.csv
ArtWork.csv
CommCalc.html

Create a folder called **Examination**. You must save all your work in this folder.
Copy these files into this folder.
Do **not** delete these files when submitting your work.

You must use the most efficient methods to solve each task and all work produced must be of a professional standard and contain your candidate details.
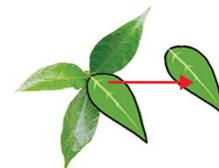
1   Use suitable graphics software to carry out the following tasks:

   (a) Extract the 4-leaf cluster from the **Bush.jpg** image.

   Save the extracted image with a transparent background as **4leaves_** followed by your centre number_candidate number
   e.g. 4leaves_ZZ999_9999   [13]

   (b) Create a vector drawing of this single leaf as shown here.
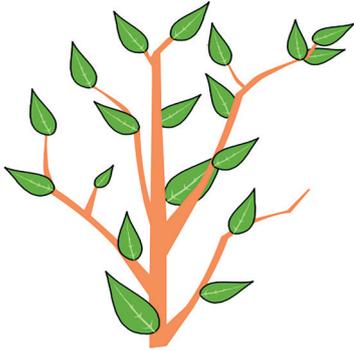
   The drawing must match the shape and colour of the
   original leaf as closely as possible.
   Save the drawing in a **Scalable Vector Graphics** (.svg) format as **Leaf_** followed by your
   centre number_candidate number
   e.g. Leaf_ZZ999_9999

   Export the image in a **bitmap** format with a width of 50px named **BitmapLeaf_** followed by
   your centre number_candidate number
   e.g. BitmapLeaf_ZZ999_9999   [13]
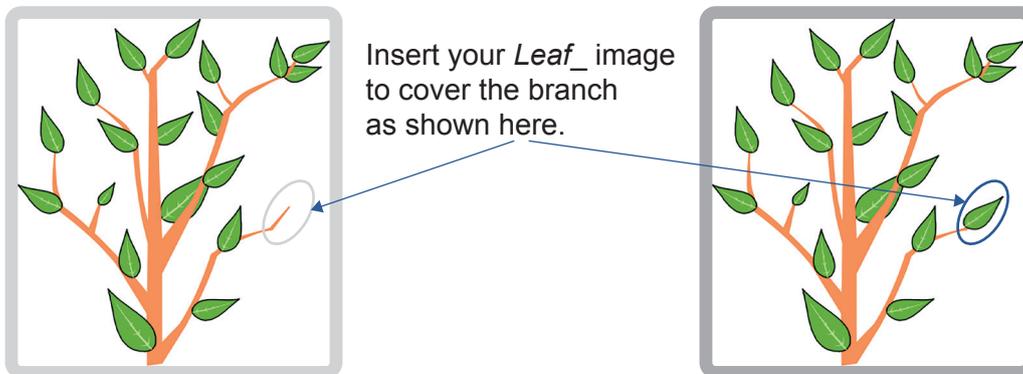
(c) Use your *Leaf_* image and the **Branches.png** file to create an image to match the one shown here.

Save the image with a size of 400px by 400px, in a **transparent bitmap** format, as **Shrub_** followed by your centre number_ candidate number
e.g. Shrub_ZZ999_9999 [9]

2 In an animation application set the canvas/frame/stage size to 400px by 400px.

Insert your *Shrub_* image.

Insert your *Leaf_* image to cover the branch as shown here.

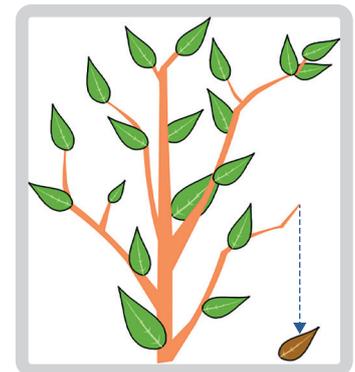Animate the leaf image to turn from green to brown in 1 second.

Animate the brown leaf to fall to the bottom of the frame in 1 second.

The animation should play automatically, but should stop when the brown leaf reaches the bottom of the frame.

Export the animation as **LeafDrop_** followed by your centre number_ candidate number as an **animated gif** or a **Shockwave Flash** (.swf) file
e.g. LeafDrop_ZZ999_9999 [20]

3 Create a relational database using the **ArtWork.csv** and **Artists.csv** files.

Make sure all fields in the database have appropriate names and data types.
If the £ currency symbol is not available use your local currency symbol.

Create a form to display the data as shown below. An amount called **Commission** is charged on the price of each item that is sold. The charge is calculated as a percentage of the price. For sales of:

- less than £50 the commission is 5%
- £50 and up to and including £100 the commission is 10%
- over £100 the commission is 12.5%

Make sure the form is laid out and formatted as shown above.

The form is for viewing data only. Make sure that data entry is disabled and that all these fields are fully visible. [35]

4 Open the **CommCalc.html** file in a browser.

You are required to complete this page to display the commission to be charged when data is entered and the Display Commission button is clicked.

Users must be able to change the values in the Sale price boundaries input boxes and the Artwork Price input box and recalculate the commission.

Open the file in a text editor.

Insert JavaScript code to calculate the commission.

The value of the commission must be displayed in an appropriate place on the page using the text:

Commission for a sale of £*ArtPrice value* **will be £***commission value*

Example:

Add programmer's comments to your code to explain key stages. [20]

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