

INFORMATION TECHNOLOGY

9626/04

Paper 4 Advanced Practical

October/November 2019

2 hours 30 minutes



Additional Materials: Candidate Source Files:
Harbour.jpg
Pearl.jpg
Sunset.jpg
Evidence.rtf
Customers.txt
Villas.csv
Bookings2017.csv
Bookings2018.csv
Bookings2019.csv
Beach.jpg
Diving.jpg
Mountains.jpg
Rainforest.jpg
Ruins.jpg
Sea.jpg
Wildlife.jpg
Scroller.html

READ THESE INSTRUCTIONS FIRST

DO **NOT** WRITE IN ANY BARCODES.

Carry out **every** instruction in each task.

Save your work using the file name given in the task as and when instructed.

The number of marks is given in brackets [] at the end of each task or part task.

Any businesses described in this paper are entirely fictitious.

You must **not** have access to either 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.

This document consists of **6** printed pages and **2** blank pages.

All documents produced must be of a professional standard and contain your candidate details.

Create an **Examination** folder to save all your work in.

Copy the following source files into your *Examination* folder:

Harbour.jpg	Customers.txt
Pearl.jpg	Villas.csv
Sunset.jpg	Bookings2017.csv
Evidence.rtf	Bookings2018.csv
	Bookings2019.csv

In your Examination folder create a subfolder named **Scenery**

Copy the following source files into your *Scenery* folder:

Beach.jpg	Diving.jpg	Mountains.jpg	Rainforest.jpg
Ruins.jpg	Sea.jpg	Wildlife.jpg	Scroller.html

Open **Evidence.rtf** and save the file as **Evidence_** followed by your centre number_candidate number.
For example: Evidence_ZZ999_9999

Insert your name, centre number and candidate number in the header of the Evidence Document.

Use this file to answer the questions in the tasks and include screen shots of any methods you use that are not obvious from the files you create.

1



Open the file **Harbour.jpg** in an appropriate graphics application.

Edit the image removing the rubbish and the bin as shown.

Save the edited image as **HarbourScene_** followed by your centre number_candidate number.
For example: HarbourScene_ZZ999_9999



[20]

2 Crop the **Pearl.jpg** file to exclude as much white space as possible and make the background transparent.

Resave the image in a format that preserves the transparency with a width of 210 pixels. [5]

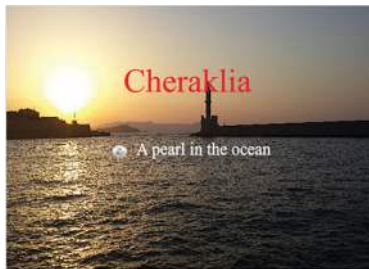
- 3 Open an animation application. Set the stage to match the size of **Sunset.jpg** and place this image as the background.

Set the text **Cheraklia** to fly in from behind the sun and stop in the centre of the stage. This must take **3** seconds to appear in full, like this:



When the text **Cheraklia** reaches the centre of the stage, the text **A pearl in the ocean** must appear.

The pearl image must then appear to rise from the sea. The pearl must take **1** second to reach the level of the text as shown.



After **2** seconds the animation must begin again.

Save the animation as **Cheraklia_** followed by your centre number_candidate number in a format that will play in a browser.

For example: **Cheraklia_ZZ999_9999**

[25]

- 4 (a) Open the **Scroller.html** file in a browser.

Use the Next and Previous buttons to scroll through the images.

There is an error in the script that is used to display the images.

The scroller should display an alert warning when the limits of the *Scenery* array are reached.

Use a text editor to correct the script.

Insert programmer comments to explain any additions or changes.

Save the corrected page in **html format** as **Scroller4a_** followed by your centre number_candidate number.

For example: **Scroller4a_ZZ999_9999**

[5]

- (b) Amend the scroller so that instead of displaying alerts, the scroller cycles through the images, forwards and backwards, continuously.

Insert programmer comments to explain any additions or changes.

Save the amended page in **html format** as **Scroller4b_** followed by your centre number_candidate number.

For example: Scroller4b_ZZ999_9999

[6]

- (c) *Descriptions of each image must replace the text 'Scroll through our breathtaking scenery'.*

Amend the JavaScript to display the appropriate text from the following list under each of the images at the *id="description"* attribute.

Enjoy our wonderful beaches

Dive on our coral reef

Drive through our beautiful mountains

Trek through our lush rainforest

Tour our ancient Roman ruins

Cruise our islands

Watch our varied wildlife

Insert programmer comments to explain any additions or changes.

Save the page in **html format** as **Scroller4c_** followed by your centre number_candidate number.

For example: Scroller4c_ZZ999_9999

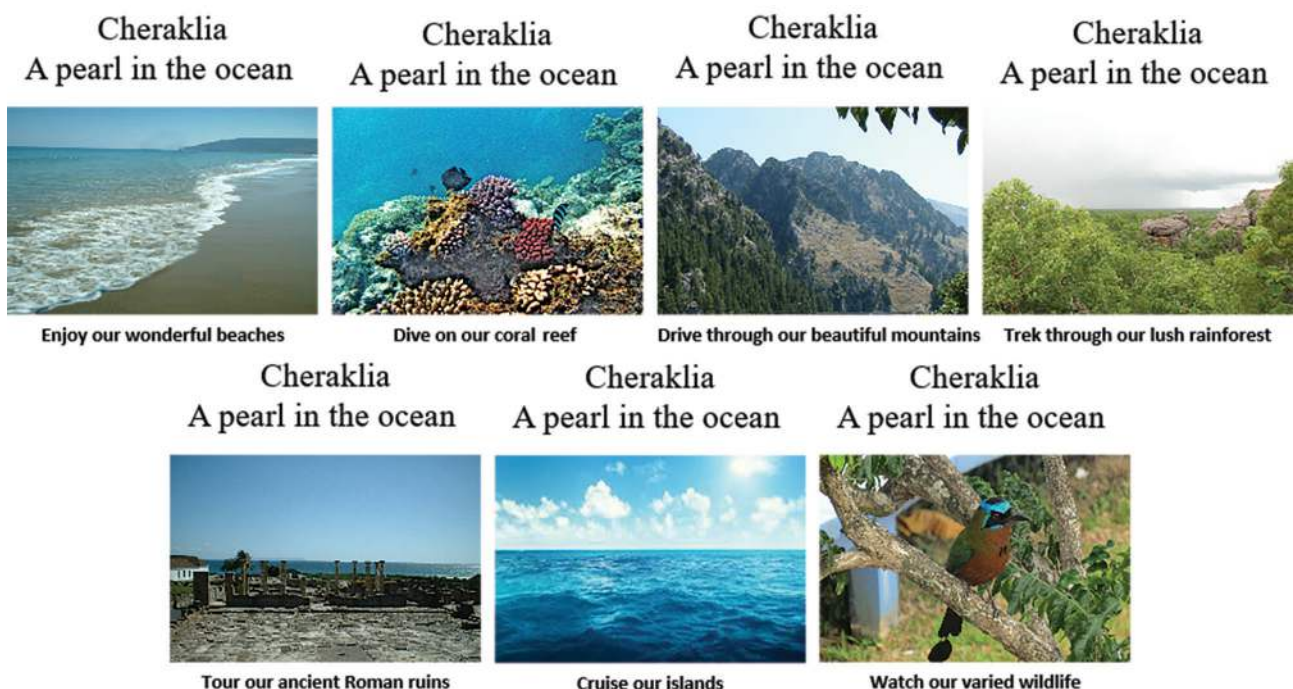


Fig. 4.1

[9]

- (d) Analyse the final scroller, as shown in Fig. 4.1, and evaluate its effectiveness in encouraging tourists to visit.

In your Evidence Document include **two** suggestions to improve the effectiveness of the scroller. [5]

- 5 Examine the following extract from holiday villa hire data which lists two available villas in each class.

Villa Class	Villa Name	Cost (per day)	Service (per day)
Bijou	ACHIMA, MEDEIA	€120	€ 6.00
BijouPlus	ACHIMA, MEDEIA	€150	€ 7.50
Standard	ARIADNE, MEGAIRA	€150	€ 7.50
Luxury	ANDROMADE, MEDOUSA	€270	€13.50
Ultimate	APOLLONIA, MARTHA	€400	€20.00

Note:

1. The BijouPlus villas are the Bijou villas with an increased level of service.
2. The Service charges are 5% of the cost per day.

In your Evidence Document:

- (a) (i) Explain why the data in the table is in unnormalised form (0NF). [1]
- (ii) Create a table showing the data in first normal form (1NF). [1]
- (iii) Identify and describe a primary key that could be set. [2]
- (iv) Explain why the data in your table is not in 2NF. [1]
- (b) (i) Create tables showing the data in 2NF. [1]
- (ii) Identify any additional primary keys that could be set. [1]
- (iii) Explain why the structure of this data is not in 3NF. [1]
- (c) (i) Create tables showing the data in 3NF. [1]
- (ii) Identify any additional primary keys that could be set. [1]

Save your Evidence Document.

- 6 (a) Create a database named **VillaBookings** using the following files:

Customers.txt
Villas.csv
Bookings2017.csv
Bookings2018.csv
Bookings2019.csv

Make sure that all data types are appropriate.

All characters in the ZipCode field in the Customers table must be upper case.

All characters in the email field in the Customers table must be lower case.

[11]

- (b) Create a report named **Regulars** to display the customers who have made bookings in all 3 years.

The report must be in portrait orientation and sorted into ascending order of *Surname*.

The report title and labels must look like this:

Customers who booked in all 3 years					
Customer id	GivenName	Surname	2017 Villa	2018 Villa	2019 Villa
1000	Fiona	Scott	10000	10000000	10000
1001	Adam	Johnson	10000	10000	1000000
1002	Jennifer	Smith	1000000	1000000	10000
1003	Ellen	Lawson	10000000	100000	10000
1004	Adam	Cook	1000	1000000	10000000
1005	Laura	Harding	1000000	100000	100000
1006	Alex	Woods	100000000	1000000	100000
1007	Jennifer	Evans	10000	100000	100000
1008	Geoffrey	Lee	100000	1000000	100000
1009	Ellen	Harding	10000000	1000	1000

[9]

- (c) Create a report named **None 2017** showing the names of any villas not booked in 2017.

The report must be in portrait orientation and sorted into ascending order of *Region*.

The report title and labels must look like this:

Villas not booked during 2017		
Villa_id	Villa_Name	Region
100	10000000	London
101	100000	London
102	100000	South
103	100000000	London (South)
104	1000000	London (South)
105	10000000	New York

[5]

Save your database.

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