Cambridge Assessment
International Education

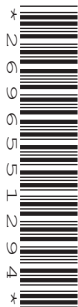# Cambridge International AS & A Level

INFORMATION TECHNOLOGY **9626/04**

Paper 4 Advanced Practical **May/June 2021**

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.

[Turn over

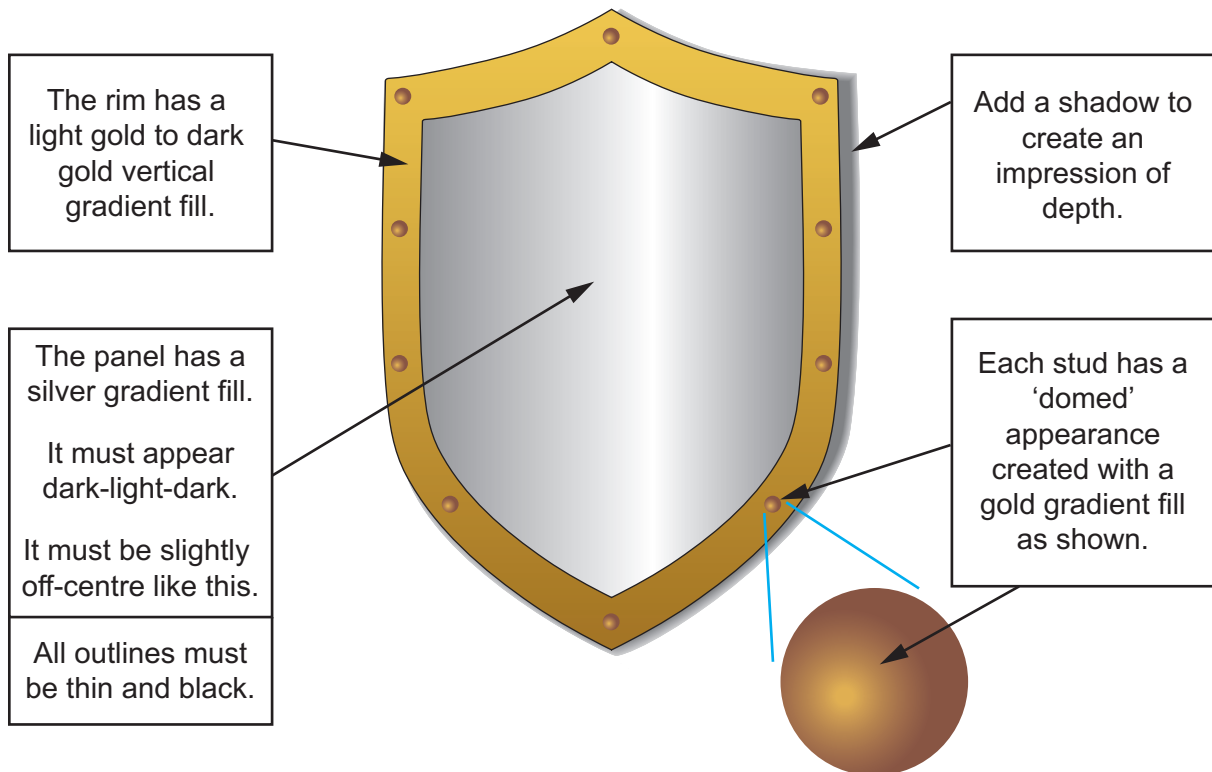You have been supplied with the following source files:

Digits.png
Pop.png
French_Clients.csv
UK_Clients.csv
Renewals.rtf

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

Task 1

Use suitable graphics software to create a vector drawing to match this shield.

The rim has a light gold to dark gold vertical gradient fill.

Add a shadow to create an impression of depth.

The panel has a silver gradient fill.

It must appear dark-light-dark.

It must be slightly off-centre like this.

All outlines must be thin and black.

Each stud has a 'domed' appearance created with a gold gradient fill as shown.

Save the image in a **scalable vector graphics** (svg) format as **Shield_1_** followed by your centre number_candidate number
e.g. Shield_1_ZZ999_9999

Create an image of a lightning bolt to match this shape. The shape has a thin blue outline and a white to orange gradient fill.

Save the image in a **scalable vector graphics** (svg) format as **Bolt_** followed by your centre number_candidate number
e.g. Bolt_ZZ999_9999
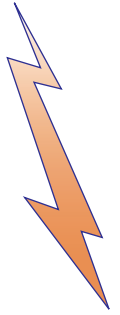
Add the *Bolt* image to your shield as shown.

Match the position and proportions carefully.

Save the image in a **scalable vector graphics** (svg) format as **Shield_2_** followed by your centre number_candidate number
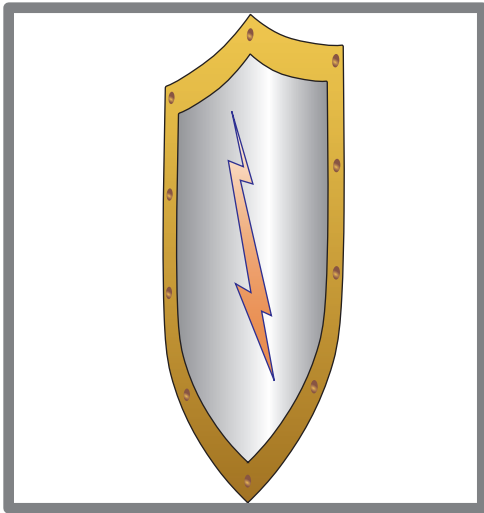e.g. Shield_2_ZZ999_9999

Export the image as a **bitmap** with a transparent background named **Shield_3_** followed by your centre number_candidate number
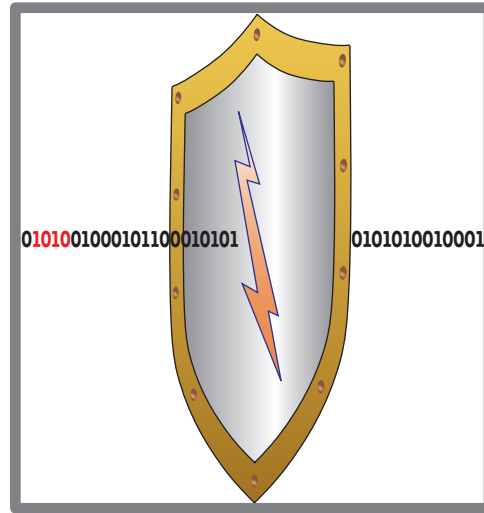e.g. Shield_3_ZZ999_9999
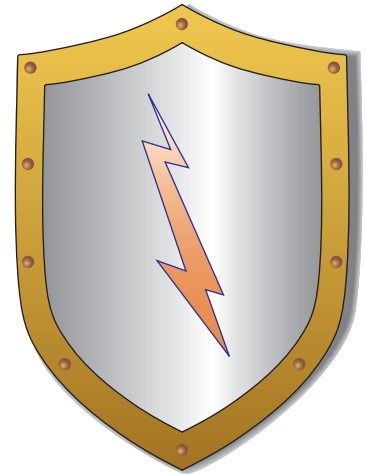
[25]

Task 2

You will create an animation to show digits passing through the shield.
Set the frame or stage size to 640 pixels wide by 480 pixels high.

Distort the shield image so that it
appears that the shield has been
turned slightly sideways.

Use the **Digits.png** image to show a
continuous stream of digits passing
left to right through the shield.
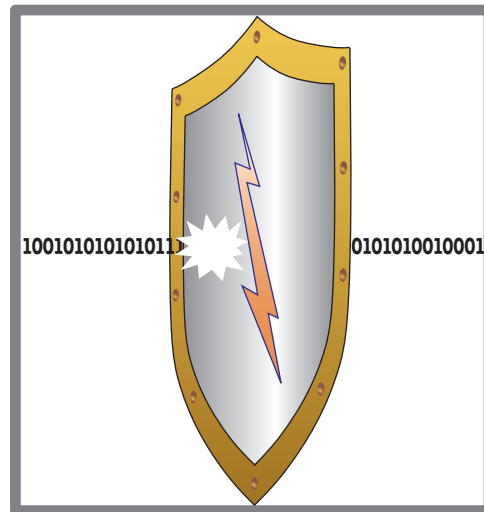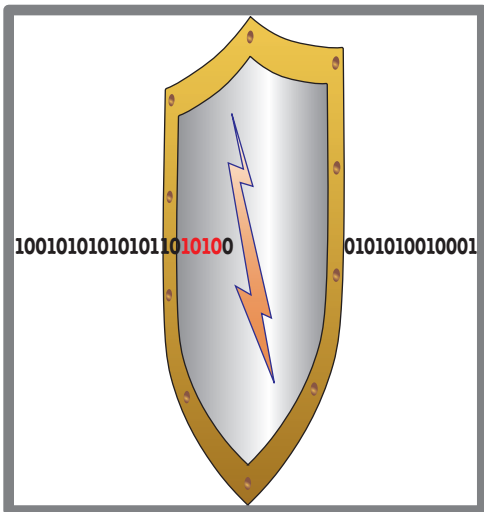
When the red digits reach the centre of the shield the **Pop.png** image must obscure the red digits until
they have disappeared. No red digits must appear to the right of the shield.

Save the animation as an **animated gif** or **.swf** file named **VirusShield_** followed by your centre
number_candidate number
e.g. VirusShield_ZZ999_9999

[25]

Task 3

Open the **French_Clients** file in a spreadsheet application.

Insert 3 rows at the top.

Set row 2 to twice the default row height.

Format cells F2 and H2 with thick outside borders.

Insert the labels **City** and **Total** in cells E2 and G2.

Format the text in cells E2 and G2 so that it is right aligned and in a 24pt bold sans-serif font.

Format cells F2 and H2 so that the data they will hold is centre aligned and in a red 24pt bold sans-serif font.

	A	B	C	D	E	F	G	H
1								
2						City		Total	
3								
4	Gender	Title	GivenName	Surname	StreetAddress	City		ZipCode	
5	male	M.	Fitz	Boucher	9 RUE CHARLES CORBEAU	ÉVREUX		27000	
6	female	Mlle	Ophelia	Baril	28 RUE DE LILLE	PARIS		59280	
7	female	Mlle	Amitee	Picard	7 RUE REINE ELISABETH	MENDE		48000	

Save the file as a spreadsheet named **French_Clients1_** followed by your centre number_candidate number e.g. French_Clients1_ZZ999_9999

Use conditional formatting to display any rows where a *City* shown in cells F5:F105 matches the city entered in cell F2 with white text and a red background.

	A	B	C	D	E	F	G	H
1								
2						City	PARIS	Total	
3								
4	Gender	Title	GivenName	Surname	StreetAddress	City		ZipCode	
5	male	M.	Fitz	Boucher	9 RUE CHARLES CORBEAU	ÉVREUX		27000	
6	female	Mlle	Ophelia	Baril	28 RUE DE LILLE	PARIS		59280	
7	female	Mlle	Amitee	Picard	7 RUE REINE ELISABETH	MENDE		48000	
8	male	M.	Senapus	Berie	17 RUE DU CLAIR BOCAGE	LA ROCHE-SUR-YON		85000	
9	male	M.	Fortun	Bilodeau	64 CHEMIN DES BATELIERS	ANGLET		64600	
10	male	M.	Neville	Lazure	55 PLACE DE LA MADELEINE	PARIS		75009	
11	male	M.	Lyle	Rousseau	38 FAUBOURG SAINT HONORÉ	MARSEILLE		64000	
12	male	M.	Zdenek	Bertrand	28 AVENUE MILLIES LACROIX	ÉLANCOURT		78990	
13	male	M.	Perrin	Frappier	36 COURS JEAN JAURES	BORDEAUX		33100	
14	female	Mlle	Allyriane	Turcotte	71 BOULEVARD DE PRAGUE	NIORT		79000	
15	male	M.	Langley	Paulet	7 AVENUE JULES FERRY	SIX-FOURS-LES-PLAGES		83140	
16	female	Mlle	Stéphanie	Grandbois	14 PLACE DE LA GARE	COLOMBES		92700	
17	male	M.	Roland	Paulet	36 AVENUE VOLTAIRE	MÂCON		71000	
18	male	M.	Pierpont	Pichette	4 RUE DE LA RÉPUBLIQUE	LUNÉVILLE		54300	
19	male	M.	Manville	Fresne	49 RUE DES DUNES	SAINT-MARTIN-D'HÈRES		38400	
20	female	Mme	Vedette	Huot	67 PLACE NAPOLÉON	MARSEILLE		2000	
21	male	M.	Searlas	Charron	62 BOULEVARD ARISTIDE BRIAND	LE CREUSOT		71200	
22	female	Mme	Brice	Morneau	1 RUE DU GUE JACQUET	BORDEAUX		33100	
23	male	M.	Leroy	Gregoire	55 QUAI SAINT-NICOLAS	BORDEAUX		31170	
24	male	M.	Granville	Lamoureux	19 RUE DESCARTES	STRASBOURG		67000	
25	male	M.	Thibaut	Longpré	18 RUE PIERRE MOTTE	SAINT-DENIS		97400	
26	male	M.	Arber	Chastain	74 PLACE CHARLES DE GAULLE	VILLENEUVE-D'ASCQ		59493	
27	male	M.	Noël	Rhéaume	94 FAUBOURG SAINT HONORÉ	PARIS		75018	
28	male	M.	Arber	Pitre	1 BOULEVARD AMIRAL COURBET	OULLINS		69600	

Save the file as **French_Clients2_** followed by your centre number_candidate number e.g. French_Clients2_ZZ999_9999

 [Turn over

In column H enter formulae to automatically number the rows where the city matches the city in cell F2.

	A	B	C	D	E	F	G	H
1								
2						City	PARIS	Total	
3								
4	Gender	Title	GivenName	Surname	StreetAddress	City	ZipCode	
5	male	M.	Fitz	Boucher	9 RUE CHARLES CORBEAU	ÉVREUX	27000	
6	female	Mlle	Ophelia	Baril	28 RUE DE LILLE	PARIS	59280	1
7	female	Mlle	Amitee	Picard	7 RUE REINE ELISABETH	MENDE	48000	
8	male	M.	Senapus	Berie	17 RUE DU CLAIR BOCAGE	LA ROCHE-SUR-YON	85000	
9	male	M.	Fortun	Bilodeau	64 CHEMIN DES BATELIERS	ANGLET	64600	
10	male	M.	Neville	Lazure	55 PLACE DE LA MADELEINE	PARIS	75009	2
11	male	M.	Lyle	Rousseau	38 FAUBOURG SAINT HONORÉ	MARSEILLE	64000	
12	male	M.	Zdenek	Bertrand	28 AVENUE MILLIES LACROIX	ÉLANCOURT	78990	
13	male	M.	Perrin	Frappier	36 COURS JEAN JAURES	BORDEAUX	33100	
14	female	Mlle	Allyriane	Turcotte	71 BOULEVARD DE PRAGUE	NIORT	79000	
15	male	M.	Langley	Paulet	7 AVENUE JULES FERRY	SIX-FOURS-LES-PLAGES	83140	
16	female	Mlle	Stéphanie	Grandbois	14 PLACE DE LA GARE	COLOMBES	92700	
17	male	M.	Roland	Paulet	36 AVENUE VOLTAIRE	MÂCON	71000	
18	male	M.	Pierpont	Pichette	4 RUE DE LA RÉPUBLIQUE	LUNÉVILLE	54300	
19	male	M.	Manville	Fresne	49 RUE DES DUNES	SAINT-MARTIN-D'HÈRES	38400	
20	female	Mme	Vedette	Huot	67 PLACE NAPOLÉON	MARSEILLE	2000	
21	male	M.	Searlas	Charron	62 BOULEVARD ARISTIDE BRIAND	LE CREUSOT	71200	
22	female	Mme	Brice	Morneau	1 RUE DU GUE JACQUET	BORDEAUX	33100	
23	male	M.	Leroy	Gregoire	55 QUAI SAINT-NICOLAS	BORDEAUX	31170	
24	male	M.	Granville	Lamoureux	19 RUE DESCARTES	STRASBOURG	67000	
25	male	M.	Thibaut	Longpré	18 RUE PIERRE MOTTE	SAINT-DENIS	97400	
26	male	M.	Arber	Chastain	74 PLACE CHARLES DE GAULLE	VILLENEUVE-D'ASCQ	59493	
27	male	M.	Noël	Rhéaume	94 FAUBOURG SAINT HONORÉ	PARIS	75018	3
28	male	M.	Arber	Pitre	1 BOULEVARD AMIRAL COURBET	OULLINS	69600	

Save the file as **French_Clients3_** followed by your centre number_candidate number
e.g. French_Clients3_ZZ999_9999

Enter a formula in cell H2 to automatically display the number of rows where the city matches the city in cell F2.

	A	B	C	D	E	F	G	H	I
1									
2						City	PARIS	Total	3	
3									

Enter a formula in cell K5 that, when replicated into L5:Q5, displays the data for the first numbered row as shown.

Format cells K4:Q4 with thin outside borders. Text in cells K4:Q4 must be left aligned and in a 10pt bold sans-serif font.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1																	
2					City	**PARIS**	Total	**3**									
3																	
4	Gender	Title	GivenName	Surname	StreetAddress	City	ZipCode				Gender	Title	GivenName	Surname	StreetAddress	City	ZipCode
5	male	M.	Fitz	Boucher	9 RUE CHARLES CORBEAU	ÉVREUX	27000			1	female	Mlle	Ophelia	Baril	28 RUE DE LILLE	PARIS	59280
6	female	Mlle	Ophelia	Baril	28 RUE DE LILLE	PARIS	59280	1		2							
7	female	Mlle	Amitee	Picard	7 RUE REINE ELISABETH	MENDE	48000			3							
8	male	M.	Senapus	Berie	17 RUE DU CLAIR BOCAGE	LA ROCHE-SUR-YON	85000			4							
9	male	M.	Fortun	Bilodeau	64 CHEMIN DES BATELIERS	ANGLET	64600			5							
10	male	M.	Neville	Lazure	55 PLACE DE LA MADELEINE	PARIS	75009	2		6							
11	male	M.	Lyle	Rousseau	38 FAUBOURG SAINT HONORÉ	MARSEILLE	64000			7							
12	male	M.	Zdenek	Bertrand	28 AVENUE MILLIES LACROIX	ÉLANCOURT	78990			8							
13	male	M.	Perrin	Frappier	36 COURS JEAN JAURES	BORDEAUX	33100			9							
14	female	Mlle	Allyriane	Turcotte	71 BOULEVARD DE PRAGUE	NIORT	79000			10							
15	male	M.	Langley	Paulet	7 AVENUE JULES FERRY	SIX-FOURS-LES-PLAGES	83140			11							
16	female	Mlle	Stéphanie	Grandbois	14 PLACE DE LA GARE	COLOMBES	92700			12							
17	male	M.	Roland	Paulet	36 AVENUE VOLTAIRE	MÂCON	71000			13							
18	male	M.	Pierpont	Pichette	4 RUE DE LA RÉPUBLIQUE	LUNÉVILLE	54300			14							
19	male	M.	Manville	Fresne	49 RUE DES DUNES	SAINT-MARTIN-D'HÈRES	38400			15							
20	female	Mme	Vedette	Huot	67 PLACE NAPOLÉON	MARSEILLE	2000			16							
21	male	M.	Searlas	Charron	62 BOULEVARD ARISTIDE BRIAND	LE CREUSOT	71200			17							
22	female	Mme	Brice	Morneau	1 RUE DU GUE JACQUET	BORDEAUX	33100			18							
23	male	M.	Leroy	Gregoire	55 QUAI SAINT-NICOLAS	BORDEAUX	31170			19							
24	male	M.	Granville	Lamoureux	19 RUE DESCARTES	STRASBOURG	67000			20							
25	male	M.	Thibaut	Longpré	18 RUE PIERRE MOTTE	SAINT-DENIS	97400			21							
26	male	M.	Arber	Chastain	74 PLACE CHARLES DE GAULLE	VILLENEUVE-D'ASCQ	59493			22							
27	male	M.	Noël	Rhéaume	94 FAUBOURG SAINT HONORÉ	PARIS	75018	3		23							

Replicate the formulae in cells K5:Q5 down to row 105 so that the data in any highlighted row is displayed.

Edit your formulae so that error messages are **not** displayed.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1																	
2					City	**PARIS**	Total	**3**									
3																	
4	Gender	Title	GivenName	Surname	StreetAddress	City	ZipCode				Gender	Title	GivenName	Surname	StreetAddress	City	ZipCode
5	male	M.	Fitz	Boucher	9 RUE CHARLES CORBEAU	ÉVREUX	27000			1	female	Mlle	Ophelia	Baril	28 RUE DE LILLE	PARIS	59280
6	female	Mlle	Ophelia	Baril	28 RUE DE LILLE	PARIS	59280	1		2	male	M.	Neville	Lazure	55 PLACE DE LA MADELEIN	PARIS	75009
7	female	Mlle	Amitee	Picard	7 RUE REINE ELISABETH	MENDE	48000			3	male	M.	Noël	Rhéaume	94 FAUBOURG SAINT HONO	PARIS	75018
8	male	M.	Senapus	Berie	17 RUE DU CLAIR BOCAGE	LA ROCHE-SUR-YON	85000			4							
9	male	M.	Fortun	Bilodeau	64 CHEMIN DES BATELIERS	ANGLET	64600			5							
10	male	M.	Neville	Lazure	55 PLACE DE LA MADELEINE	PARIS	75009	2		6							
11	male	M.	Lyle	Rousseau	38 FAUBOURG SAINT HONORÉ	MARSEILLE	64000			7							
12	male	M.	Zdenek	Bertrand	28 AVENUE MILLIES LACROIX	ÉLANCOURT	78990			8							
13	male	M.	Perrin	Frappier	36 COURS JEAN JAURES	BORDEAUX	33100			9							
14	female	Mlle	Allyriane	Turcotte	71 BOULEVARD DE PRAGUE	NIORT	79000			10							
15	male	M.	Langley	Paulet	7 AVENUE JULES FERRY	SIX-FOURS-LES-PLAGES	83140			11							
16	female	Mlle	Stéphanie	Grandbois	14 PLACE DE LA GARE	COLOMBES	92700			12							
17	male	M.	Roland	Paulet	36 AVENUE VOLTAIRE	MÂCON	71000			13							
18	male	M.	Pierpont	Pichette	4 RUE DE LA RÉPUBLIQUE	LUNÉVILLE	54300			14							
19	male	M.	Manville	Fresne	49 RUE DES DUNES	SAINT-MARTIN-D'HÈRES	38400			15							
20	female	Mme	Vedette	Huot	67 PLACE NAPOLÉON	MARSEILLE	2000			16							
21	male	M.	Searlas	Charron	62 BOULEVARD ARISTIDE BRIAND	LE CREUSOT	71200			17							
22	female	Mme	Brice	Morneau	1 RUE DU GUE JACQUET	BORDEAUX	33100			18							
23	male	M.	Leroy	Gregoire	55 QUAI SAINT-NICOLAS	BORDEAUX	31170			19							
24	male	M.	Granville	Lamoureux	19 RUE DESCARTES	STRASBOURG	67000			20							
25	male	M.	Thibaut	Longpré	18 RUE PIERRE MOTTE	SAINT-DENIS	97400			21							
26	male	M.	Arber	Chastain	74 PLACE CHARLES DE GAULLE	VILLENEUVE-D'ASCQ	59493			22							
27	male	M.	Noël	Rhéaume	94 FAUBOURG SAINT HONORÉ	PARIS	75018	3		23							
28	male	M.	Arber	Pitre	1 BOULEVARD AMIRAL COURBET	OULLINS	69600			24							

Re-save your spreadsheet.

Design a solution to display numbers in column J only when there is data in columns K to Q in that row.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1																	
2					City	**PARIS**	Total	**3**									
3																	
4	Gender	Title	GivenName	Surname	StreetAddress	City	ZipCode				Gender	Title	GivenName	Surname	StreetAddress	City	ZipCode
5	male	M.	Fitz	Boucher	9 RUE CHARLES CORBEAU	ÉVREUX	27000			1	female	Mlle	Ophelia	Baril	28 RUE DE LILLE	PARIS	59280
6	female	Mlle	Ophelia	Baril	28 RUE DE LILLE	PARIS	59280	1		2	male	M.	Neville	Lazure	55 PLACE DE LA MADELEIN	PARIS	75009
7	female	Mlle	Amitee	Picard	7 RUE REINE ELISABETH	MENDE	48000			3	male	M.	Noël	Rhéaume	94 FAUBOURG SAINT HONO	PARIS	75018
8	male	M.	Senapus	Berie	17 RUE DU CLAIR BOCAGE	LA ROCHE-SUR-YON	85000										
9	male	M.	Fortun	Bilodeau	64 CHEMIN DES BATELIERS	ANGLET	64600										
10	male	M.	Neville	Lazure	55 PLACE DE LA MADELEINE	PARIS	75009	2									
11	male	M.	Lyle	Rousseau	38 FAUBOURG SAINT HONORÉ	MARSEILLE	64000										
12	male	M.	Zdenek	Bertrand	28 AVENUE MILLIES LACROIX	ÉLANCOURT	78990										
13	male	M.	Perrin	Frappier	36 COURS JEAN JAURES	BORDEAUX	33100										
14	female	Mlle	Allyriane	Turcotte	71 BOULEVARD DE PRAGUE	NIORT	79000										
15	male	M.	Langley	Paulet	7 AVENUE JULES FERRY	SIX-FOURS-LES-PLAGES	83140										
16	female	Mlle	Stéphanie	Grandbois	14 PLACE DE LA GARE	COLOMBES	92700										
17	male	M.	Roland	Paulet	36 AVENUE VOLTAIRE	MÂCON	71000										
18	male	M.	Pierpont	Pichette	4 RUE DE LA RÉPUBLIQUE	LUNÉVILLE	54300										
19	male	M.	Manville	Fresne	49 RUE DES DUNES	SAINT-MARTIN-D'HÈRES	38400										
20	female	Mme	Vedette	Huot	67 PLACE NAPOLÉON	MARSEILLE	2000										
21	male	M.	Searlas	Charron	62 BOULEVARD ARISTIDE BRIAND	LE CREUSOT	71200										
22	female	Mme	Brice	Morneau	1 RUE DU GUE JACQUET	BORDEAUX	33100										
23	male	M.	Leroy	Gregoire	55 QUAI SAINT-NICOLAS	BORDEAUX	31170										
24	male	M.	Granville	Lamoureux	19 RUE DESCARTES	STRASBOURG	67000										
25	male	M.	Thibaut	Longpré	18 RUE PIERRE MOTTE	SAINT-DENIS	97400										
26	male	M.	Arber	Chastain	74 PLACE CHARLES DE GAULLE	VILLENEUVE-D'ASCQ	59493										
27	male	M.	Noël	Rhéaume	94 FAUBOURG SAINT HONORÉ	PARIS	75018	3									
28	male	M.	Arber	Pitre	1 BOULEVARD AMIRAL COURBET	OULLINS	69600										

Re-save your spreadsheet. [35]

Task 4

Open **Renewals.rtf** in a suitable application. You must use this file as a template for mail merging letters to customers. Read the instructions in the template carefully and insert appropriate merge fields to replace the instructions.

The merged letters must be consistently formatted and of a professional standard.

Use the **UK_Clients.csv** file as a data source for mail merging letters to any customers with subscriptions to the WebShield, TotalShield or PremierShield anti-virus suites that are due to expire in June 2021.

The data source file must be edited to calculate:

- the number of years the clients have subscribed
- the *Offer_Code* using the first character of the name of the *Anti-Virus_Suite* plus the number of years. e.g. for a subscription of 3 years to Webshield the code would be W3.

Save the data source as **MergeData_** followed by your centre number_candidate number
e.g. MergeData_ZZ999_9999

Letters to customers who have subscribed for less than 3 years should include the following text:

We hope you will continue to use our award-winning software.

Letters to customers who have subscribed to the WebShield suite for 3 or more years should include the following text:
As a loyal customer we are happy to offer you a free upgrade to the TotalShield suite for the next year.

Letters to customers who have subscribed to the TotalShield suite for 3 or more years should include the following text:
As a loyal customer we are happy to offer you a free upgrade to the PremierShield suite for the next year.

Letters to customers who have subscribed to the PremierShield suite for 3 or more years should include the following text:
As a reward for your loyalty we can offer you a free download of our new MalwareZap application. Just visit our website for instructions.

Save the merge document as **RenewMergeDoc_** followed by your centre number_candidate number
e.g. RenewMergeDoc_ZZ999_9999

Merge the letters and save the file as **RenewLetters_** followed by your centre number_candidate number
e.g. RenewLetters_ZZ999_9999

[25]