

**ANALYSIS**

*Identify the end-user and functional requirements of a website problem that relates to the design and implementation at this level*

**2019 Q15a**

15. Chill Zone is an online electrical retailer. Fridge freezers need to be added to its current website.

- (a) Analysis was carried out to identify the requirements for the fridge freezer pages.

Part of the analysis report is shown below.

Each new page of the site should focus on a specific fridge freezer. Each page should also allow a user to view pictures, read reviews and view the technical specifications of each fridge freezer. The page should also include a video showing the item in use.

Using the information from the analysis report above, identify two end-user requirements of the fridge freezer pages.

**2**

Requirement 1 \_\_\_\_\_

\_\_\_\_\_

Requirement 2 \_\_\_\_\_

\_\_\_\_\_

## **DESIGN**

*Describe and exemplify the website structure with a homepage, a maximum of four linked multimedia pages, and any necessary external links*

**2019 Q18a**

**18.** The Giants basketball team has a website.

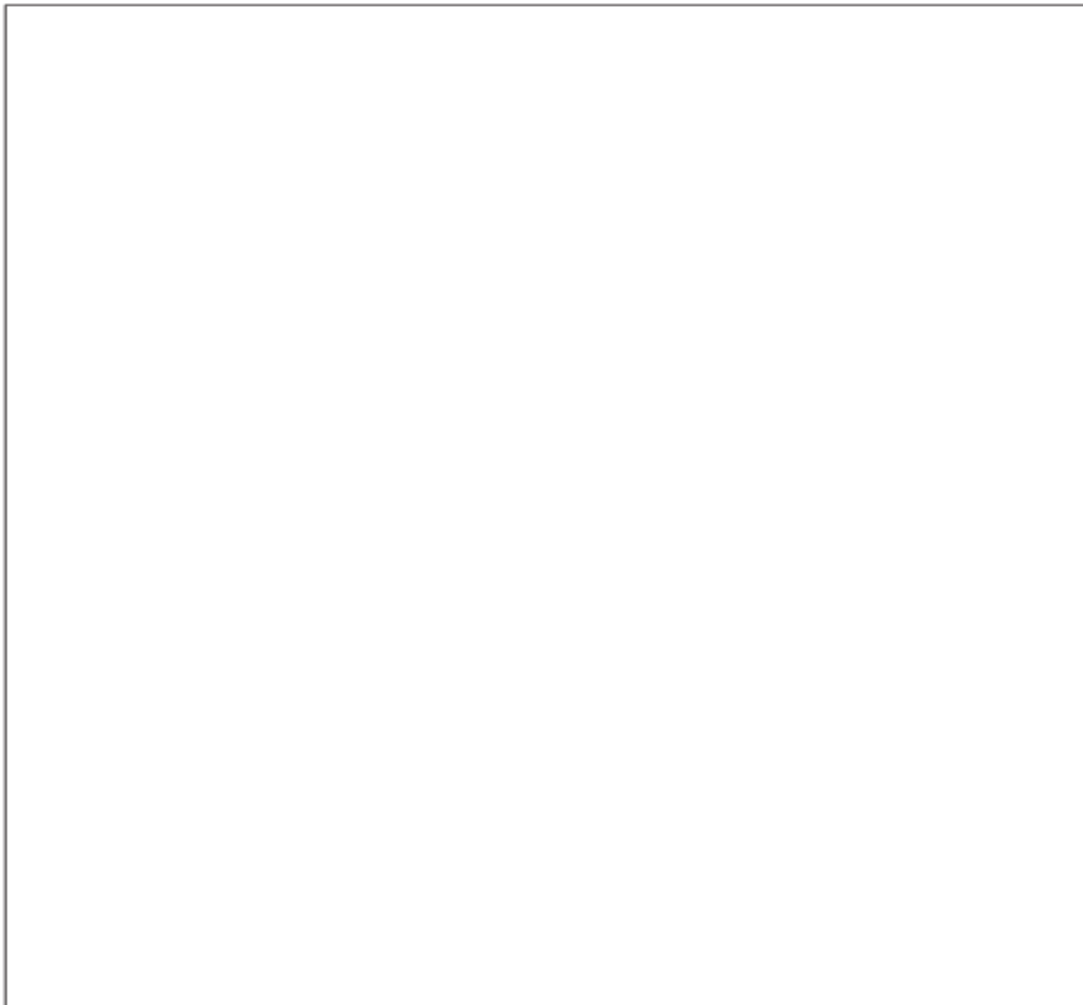
(a) The website contains the following four pages.

- Home page
- Information about the club
- Upcoming fixtures
- How to contact the club

All the pages on the site include a link back to the home page. The page with fixture information also contains an external hyperlink to the Scottish Basketball League.

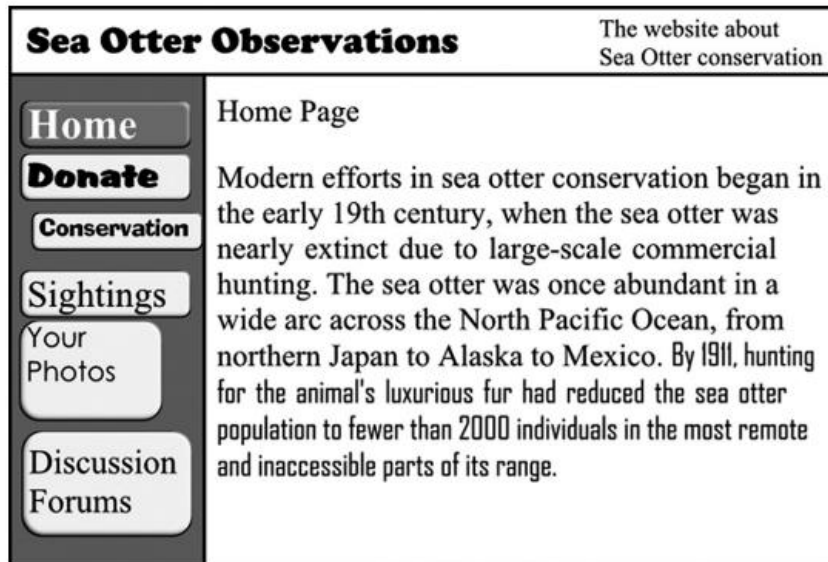
Draw the navigational structure for this website.

**4**



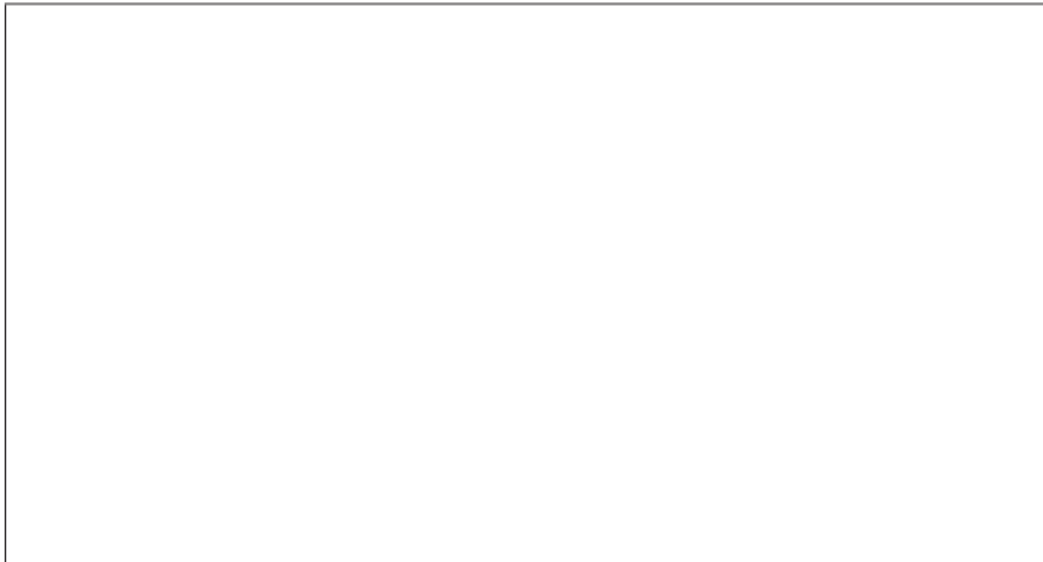
2017 Q20d

Sea Otter Observations uses a simple website to provide information about otters. The home page for the website is shown below.



- (d) Draw, referring to the home page and the other pages as examples, a diagram to represent the navigation structure of the Sea Otter Observations website.

2



## **DESIGN**

*Describe, exemplify and implement, taking into account end-user requirements, effective user-interface design (visual layout and readability) using wire-framing: navigational links; consistency across multiple pages; relative vertical positioning of the media displayed; file formats of the media (text, graphics, video, and audio)*

## DESIGN

*Describe and identify the implications for individuals and businesses of the Copyright, Designs and Patents Act 1988 relating to: web content (text, graphics, video, and audio)*

### **SQP Q18(g)**

- (g) John used a search engine to find a suitable graphic to use on each of his pages.

State one way John could ensure he does not breach the Copyright, Designs and Patents Act 1988.

1

---

### **2019 Q15b(i)**

- (b) All the images that Chill Zone wants to use are on the fridge freezer manufacturers' websites.

- (i) Describe what Chill Zone must do to avoid prosecution under the Copyright, Designs and Patents Act when using these images.

1

---

---

### **2018 Q13**

13. Eduardo has created a website to display photos that he has taken.

Explain why Eduardo did not have to consider the Copyright Designs and Patents Act when creating his website.

1

---

---

### **2017 Q18b**

18. Fass is an art dealer. When he visits an artist's studio, he uses a catalogue app on his mobile phone to store photographs and information about artworks he plans to sell.

- (b) Explain why Fass must ask permission to store a digital copy of the artists' artwork.

1

---

---

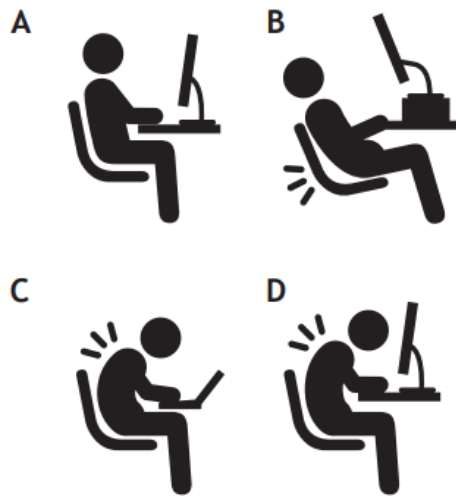
2016 Q18d(i)

18. A software development company decides to review staff knowledge of computer related legislation.

Mikal is asked to create an app covering a range of legal issues.

- (d) In line with Health and Safety legislation, the company provides adjustable seating and guidelines on maintaining good posture.

Mikal finds graphics on a website that he can use to illustrate his next quiz question.



- (i) Explain why he might need to seek permission to use the graphics legally.

1

---

---

## **DESIGN**

*Compare a range of standard file formats: audio standard file formats WAV and MP3 in terms of compression, quality, and file size; bit-mapped graphic standard file formats JPEG, GIF, and PNG in terms of compression, animation, transparency, and colour depth*

### **SQP Q10**

10. Jane is entering an online competition. She edits a recording of herself singing to save and upload to the competition's website.

Describe one advantage and one disadvantage of saving and uploading an MP3 file format rather than a WAV file format to the website.

**2**

Advantage of MP3 file format \_\_\_\_\_

\_\_\_\_\_

Disadvantage of MP3 file format \_\_\_\_\_

\_\_\_\_\_

### **SQP Q18e(ii)**

- (ii) State why the file type of the bit-mapped graphic is suitable for use on a web page.



**2**

\_\_\_\_\_

\_\_\_\_\_

**2019 Q15b(ii)**

- (ii) Chill Zone must select one of the fridge freezer images below. Each image has the same resolution.

Image A	Image B
	
starFrostFree.jpg 800 × 400	starFrostFree.gif 800 × 400

State one advantage of each image compared to the other.

2

Image A advantage \_\_\_\_\_

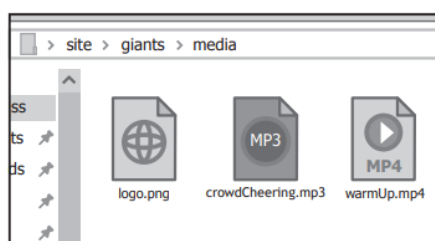
\_\_\_\_\_

Image B advantage \_\_\_\_\_

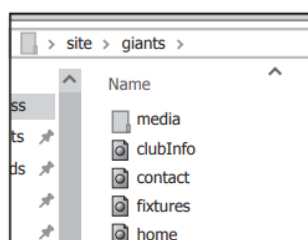
\_\_\_\_\_

**2019 Q18d(i)**

- (d) All the video, audio and images used on the Giants website are stored in a folder called 'media' in the following location.



Each page on the site displays an image of the Giants logo in the same position.



- (i) Identify the graphic file format used to store the image.

1

\_\_\_\_\_



**2018 Q1**

1. State a graphic file type suitable for storing an animated logo. 1

---

**2018 Q3**

3. Describe one method used to reduce the file size of a sound file without altering its running time. 1

---

---

**2018 Q18c**

- (c) State two reasons why jpeg files are often used as the standard file format for photographs on web pages. 2

Reason 1 

---

---

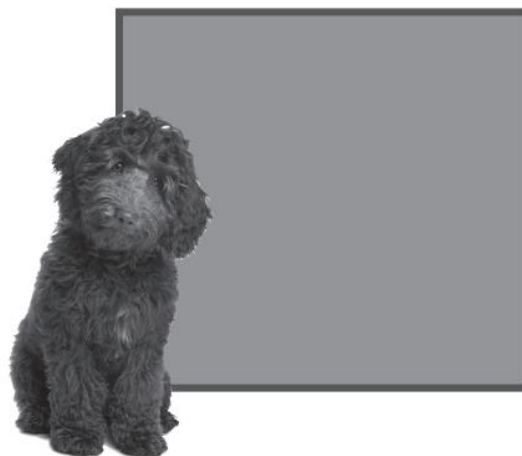
Reason 2 

---

---

**2017 Q5**

5. A graphic of a dog is placed in front of a coloured rectangle.



State a suitable file format for the dog graphic. 1

---

**DESIGN**

*Describe the need for compression*

**2017 Q16d(iii)**

- (iii) Explain why compressing the graphic would benefit the users of the Go Universe website.

**1**

---

---

---

**DESIGN**

*Describe, exemplify, and implement prototyping (low-fidelity) from wireframe design at this level*

**SQP Q7**

7. Explain why web designers make use of low-fidelity prototyping.

**1**

---

---

---

**2018 Q12**

12. Explain why low-fidelity prototypes are used when designing a website.

**1**

---

---

---

---

## IMPLEMENTATION (CSS)

*Describe, exemplify and implement internal and external Cascading Style Sheets (CSS)*

- *Selectors, classes and IDs*
- *Properties*
  - *Text*
    - *Font (family, size)*
    - *Color*
    - *Alignment*
  - *Background color*

### **SQP Q15b**

15. Two golfers from a golf club are in the headline article of the 'Scotland Yesterday' newspaper.



- (b) A cascading style sheet (CSS) rule shown below is used to style the large headings in the golf club's website:

```
h1 { font-size: 20px;
      font-family: "Times New Roman";
      text-align: center;
    }
```

Paragraph text in this website should be displayed on the left, using a Helvetica font that is half the height of the text used in the large headings.

Write a CSS rule that would style the paragraphs.

4

**SQP Q18d(i)**

(d) The text in the web page uses internal style rules positioned in the <head>.

(i) State the type of CSS selector shown by the # symbol at the beginning of the CSS rule below. 1

```
#latin {font-size:10px;font-style:italic;color:LightGreen;}
```

---

**SQP Q18f**

(f) John is advised to use an external cascading style sheet.

Describe what is meant by an external cascading style sheet. 2

---

---

---

**2019 Q15c(iii)**

15. Chill Zone is an online electrical retailer. Fridge freezers need to be added to its current website.

(iii) Explain why the line of code below is included in every page of the website. 1

```
<link rel = "stylesheet" type="text/css"
      href="ChillStyle.css">
```

---

---

---

2019 Q18b

18. Julie creates a website to advertise her athletics club.

The text 'Opponent – Date – Venue' is styled using the following rule.

```
#fixtures {font-size:14px;
background-color:white;
text-align:left;
color:navy}
```

(i) State the type of selector used in the above style.

1

2018 Q18d

18. Julie creates a website to advertise her athletics club.

(d) When Julie created the 'Junior Club' web page, she used three <div> elements and external CSS rules to colour each of the three sections.

HTML Document			
<pre>&lt;!DOCTYPE html&gt; &lt;html&gt; &lt;head&gt; &lt;title&gt;Forrest Runners&lt;/title&gt; &lt;link rel="stylesheet" href="styles.css"&gt; &lt;/head&gt; &lt;body&gt; &lt;div&gt; &lt;h2&gt;Forrest Juniors&lt;/h2&gt; &lt;p&gt;Forrest Juniors Running Club is open to anybody aged 5 to 17. If you wish to run seriously or just for fun please come along at the following times.&lt;/p&gt; &lt;/div&gt; &lt;div class="middlePart"&gt; &lt;h2&gt;Meeting Times&lt;/h2&gt; &lt;p&gt;Junior meeting times are 4pm-6pm on Tuesday, Wednesday and Sunday afternoons.&lt;/p&gt; &lt;/div&gt; &lt;div&gt; &lt;h2&gt;Required Kit&lt;/h2&gt; &lt;p&gt;All runners are expected to bring their own:&lt;/p&gt; &lt;ul&gt; &lt;li&gt; T-shirt or running top &lt;/li&gt; &lt;li&gt; Shorts &lt;/li&gt; &lt;li&gt; Trainers or running spikes &lt;/li&gt; &lt;/ul&gt; &lt;a href="homePage.html"&gt;Back to Home Page&lt;/a&gt; &lt;/div&gt; &lt;/body&gt; &lt;/html&gt;</pre>	<table><tr><th>styles.css</th></tr><tr><td><pre>body{background-color:DarkBlue} div {background-color:LightBlue} p { font-family:Times New Roman; font-size:12px; text-align:left; color:Black} .middlePart {background-color:White}</pre></td></tr></table>	styles.css	<pre>body{background-color:DarkBlue} div {background-color:LightBlue} p { font-family:Times New Roman; font-size:12px; text-align:left; color:Black} .middlePart {background-color:White}</pre>
styles.css			
<pre>body{background-color:DarkBlue} div {background-color:LightBlue} p { font-family:Times New Roman; font-size:12px; text-align:left; color:Black} .middlePart {background-color:White}</pre>			

Julie styled her <div> elements to display with a light blue background:

```
div {background-color:LightBlue}
```

Explain why a browser would not display the page with three light blue sections.

2

---

---

---

---

2018 Q18e

- (e) The Junior Club web page is displayed in a browser. Part of this is shown below.



Write a CSS rule that would ensure the text size of the bullet point list is the same text size as the sentence.

2

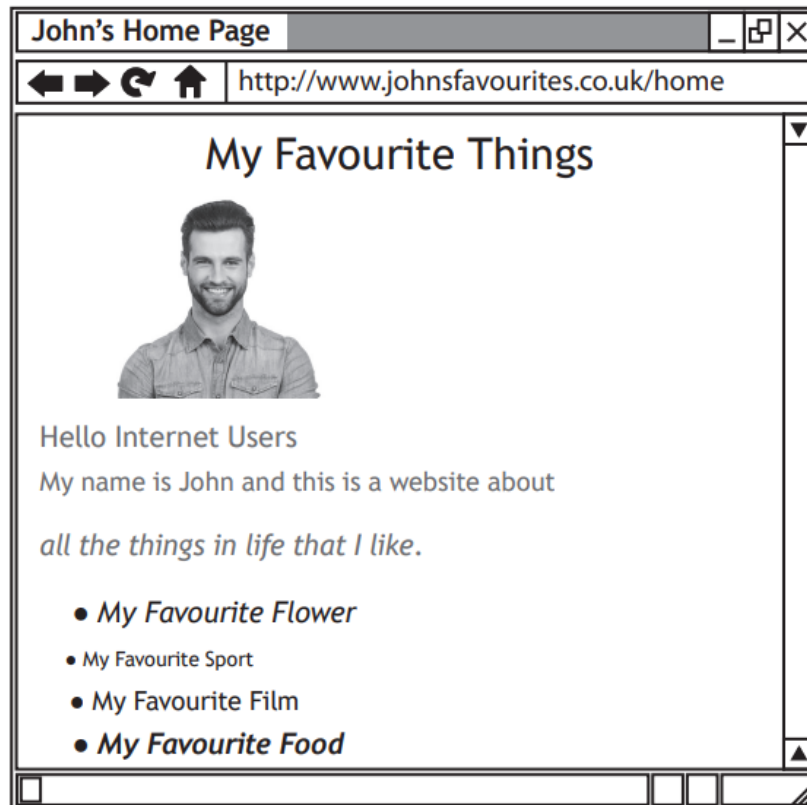
### IMPLEMENTATION (HTML)

Describe, exemplify and implement HTML code: HTML, head, title, body, heading, paragraph, DIV, link, anchor, IMG, audio, video, lists (ol, ul, li).

Read and explain code that makes use of the above HTML

SQP Q18b

18. John has created a website listing his favourite things. The home page of his website is shown below.



- (b) John wishes to show his favourite sports as a bullet point list on his 'favourite sports' page. His list of favourite sports will be implemented using <ul> and <li> tags.

Add HTML <ul> and <li> opening and closing tags to the list below.

3

Golf

Cricket

Ten Pin Bowling

**2019 Q2**

2. Add HTML body, h1 and title opening and closing elements to complete the code below.

**3**

```
<html>

<head>

    <_____>My first webpage<_____>

</head>

<_____>

    <_____>Welcome to my site<_____>

    <p>Here is the webpage that I have created.</p>

<_____>

</html>
```

**2019 Q9**

9. The HTML code below is used to create a web page.

```
<html>
<head>
<title> French Facts </title>
<style>
h1 {text-align:right}
</style>
<head>

<body>
<h1> France </h1>
<p> Facts about France: </p>

<ul>
<li> Capital: Paris </li>
<li> Population: 67 m </li>
<li> Flag: tricolour </li>
</ul>

</body>
</html>
```



Draw how this web page will look when viewed in a browser.

Some of the content has already been added.

2



2019 Q15c(ii)

15. Chill Zone is an online electrical retailer. Fridge freezers need to be added to its current website.

(ii) The code below is added.

Describe two purposes of this code.

2

```
<video width = "500" height = "250" controls>  
<source src="starFrostFree.mp4" type="video/mp4">  
</video>
```

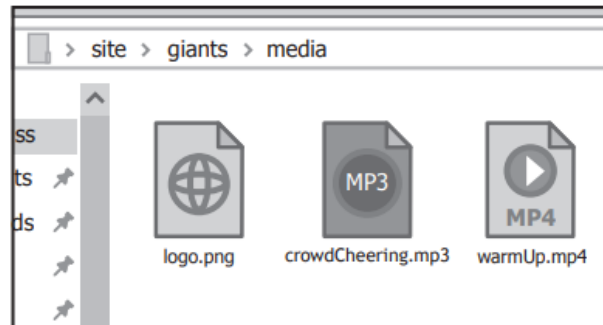
---

---

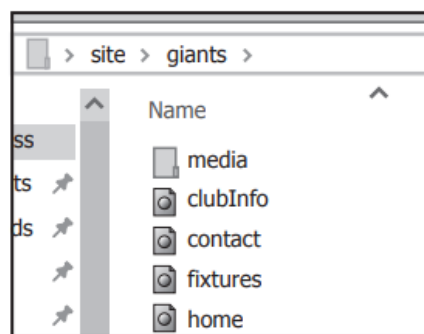
---

**2019 Q18d(ii)**

- (d) All the video, audio and images used on the Giants website are stored in a folder called 'media' in the following location.



Each page on the site displays an image of the Giants logo in the same position.



- (ii) Write the code that would be needed to display this image on the club information page.

2

``

2018 Q18b

18. Julie creates a website to advertise her athletics club.

- (b) When implementing the home page prototype, Julie makes use of several HTML elements.

The diagram below identifies where <h1> and <img> elements have been used.

Complete the diagram by drawing arrows to identify where the <p>, <h2> and <a> elements should be used.

3



- (c) State two reasons why jpeg files are often used as the standard file format for photographs on web pages.

2

Reason 1 \_\_\_\_\_

\_\_\_\_\_

Reason 2 \_\_\_\_\_

\_\_\_\_\_

**2018 Q23c(i) & Q23c(ii)**

(c) Sydney Bakery also maintains a website.

Part of the HTML code for the home page is shown below.

```
...  
<style>  
.mainHeading {text-align:right}  
h2 {text-align:center}  
div {text-align:left}  
</style>  
</head>  
  
<body>  
<div class="mainHeading">  
<h1>Sydney Bakery</h1>  
<h2>Baking Since 1935</h2>  
</div>  
  
<div>  
<p>Started over 70 years ago, Sydney's now employs  
over 100 staff.  
<ol><li><a href="#Option1">Sydney's Family</a></li>  
<li><a href="#Option2">Our Stores</a></li> <li><a  
href="#Option3">Our Products</a></li></ol>  
</p>  
  
<p id="Option1">The founders of our bakery were  
David and Davina Sydney.</p>  
</div>  
...
```

(i) Explain the purpose of `href="#Option1"` in the code above.

1

---

---

- (ii) Draw how the home page will look when viewed in a browser.  
Some of the content has already been added.

5


Started over 70 years ago, Sydney's now employs  
over 100 staff.

The founders of our bakery were David and Davina  
Sydney.

2017 Q16c

16. Jenny works for a website design company. Her latest project is to design and implement a website for Go Universe.

She creates the website below.

Go Books		Go Universe		Type your search here		Search																								
		Online Retailer of Everything Go																												
Go Game Sets	Go Boards	Go Stones	Go Books	Downloads	My Account <small>Login</small>	Cart <small>0</small>																								
Home > Go Books > Go Books for Beginners																														
<b>Publisher</b> <input type="checkbox"/> Kisido Press <input type="checkbox"/> BGA <input type="checkbox"/> Nakuri Publications <input type="checkbox"/> Other		<b>Go Books for Beginners</b> 5 items <span style="float: right;">Sort By <small>Popularity (high-low)</small> ▼</span>																												
<b>Level</b> <input checked="" type="checkbox"/> Beginners <input type="checkbox"/> Intermediate <input type="checkbox"/> Expert <input type="checkbox"/> Professional		<table border="1"> <thead> <tr> <th>Title</th> <th>Author</th> <th>Rating</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>Learn to play Go</td> <td>Lea Mahmood</td> <td>*****</td> <td>£7.99</td> </tr> <tr> <td>Go - The world's best board game</td> <td>Penny Holding</td> <td>*****</td> <td>£10.50</td> </tr> <tr> <td>So you want to play Go</td> <td>Xa Cho</td> <td>****</td> <td>£5.50</td> </tr> <tr> <td>Go, A complete introduction</td> <td>Bob Tomlinson</td> <td>****</td> <td>£9.95</td> </tr> <tr> <td>An Introduction to Go</td> <td>Margaret Reid</td> <td>***</td> <td>£15.00</td> </tr> </tbody> </table>					Title	Author	Rating	Price	Learn to play Go	Lea Mahmood	*****	£7.99	Go - The world's best board game	Penny Holding	*****	£10.50	So you want to play Go	Xa Cho	****	£5.50	Go, A complete introduction	Bob Tomlinson	****	£9.95	An Introduction to Go	Margaret Reid	***	£15.00
Title	Author	Rating	Price																											
Learn to play Go	Lea Mahmood	*****	£7.99																											
Go - The world's best board game	Penny Holding	*****	£10.50																											
So you want to play Go	Xa Cho	****	£5.50																											
Go, A complete introduction	Bob Tomlinson	****	£9.95																											
An Introduction to Go	Margaret Reid	***	£15.00																											
<b>Price</b> <input type="checkbox"/> £0 - £5 <input type="checkbox"/> £5 - £10 <input type="checkbox"/> £10 - £20 <input type="checkbox"/> Over £20																														

- (c) Jenny used the simple template below when coding the HTML.

```

<!DOCTYPE html>
<html>
<head>
  <title> </title>
</head>
<body>
<div>
  <p>Page Heading</p>
</div>
</body>
</html>

```

Describe how the above HTML was edited to make the words “Go Books” appear at the top of the webpage.

1

### **IMPLEMENTATION**

*Describe and implement hyperlinks (internal and external), relative and absolute addressing*

#### **SQP Q13**

**13.** A web page can use both internal and external hyperlinks.

Explain the difference between an internal and an external hyperlink. **2**

---

---

---

---

---

#### **2018 Q18f(i) & Q18f(ii)**

**18.** Julie creates a website to advertise her athletics club.

(f) The user can return to the Home page from the Junior Club page.

(i) State the type of hyperlink that has been used to return to the Home page. **1**

---

(ii) State the type of addressing that has been used in the hyperlink. **1**

---

#### **2017 Q1**

**1.** Describe the difference between an internal and an external hyperlink. **2**

---

---

---

---

**2017 Q16d(i)**

(d)



The above logo is added to each page using the following code.

```

```

(i) The code contains the link to the stored graphic file.

State the type of addressing used.

**1**

---

**2016 Q17c**

(c) The homepage contains hyperlinks. Describe the function of a hyperlink.

**1**

---

---

---

**2016 Q17e**

(i) Explain what is meant by an external link.

**1**

---

---

---

---




## IMPLEMENTATION (JAVASCRIPT)

Describe and identify Javascript coding related to mouse events: onmouseover; onmouseout

### SQP Q18c

One of John's linked pages shows his favourite flower. When the HTML document below is displayed in a browser, it generates the web page shown.

HTML document
<pre>&lt;!DOCTYPE html&gt; &lt;html&gt; &lt;head&gt; &lt;title&gt;Page Title&lt;/title&gt; &lt;style&gt; h1 {font-size:20px;font-style:bold;text-align:center} p {font-size:12px;color:DarkGreen;text-align:left} #latin {font-size:10px;font-style:italic;color:LightGreen} img {width:304px;height:300px;align-left} &lt;/style&gt; &lt;/head&gt;  &lt;body&gt; &lt;h1&gt;My Favourite Flower&lt;/h1&gt;  &lt;p&gt;My favourite flower is called a Magnolia. They are ancient flowers thought to be around 20 million years old. A picture of a Magnolia in full flower is shown below.&lt;br&gt;  &lt;img id="photo" src="magnolia.jpg" alt="Magnolia Flower" onmouseover="document.getElementById('photo').src='magnoliaFlower.jpg'"/&gt; &lt;/p&gt;  &lt;p ID="latin"&gt;Magnolioideae&lt;/p&gt;  &lt;/body&gt; &lt;/html&gt;</pre>

Web page
<div><h3>My Favourite Flower</h3><p>My favourite flower is called a Magnolia. They are ancient flowers thought to be around 20 million years old. A picture of a Magnolia in full flower is shown below.</p><p><i>Magnolioideae</i></p></div>

(c) The <img> tag contains some additional code used to create dynamic content.

(i) State the language used to create dynamic content in web pages. 1

---

(ii) The graphic changes when the mouse pointer is placed over it.  
Identify the event in the code that causes the graphic to change. 1

---

**2019 Q15c(i)**

Some of the HTML code used to create one of the pages on Chill Zone's website is shown below.

```
<html>
<head>
<title> Star Frost Free </title>
<link rel = "stylesheet" type="text/css"
      href="ChillStyle.css">
</head>

<body>
<h1> Star Frost Free </h1>
<h2> Images </h2>
<p>View pictures of the new Star Frost Free </p>


<h2> Reviews </h2>
<p class = "review"> A great fridge! </p>
<p class = "review"> Perfect size for our kitchen
</p>
...

...
<p>Go to <a href="home.html">Home Page</a> </p>
</body>
</html>
```

- (i) When viewed in a browser the fridge freezer can be displayed as either an image showing the door open or an image showing the door closed.

Identify the JavaScript event used to implement this feature.

1

#### 2018 Q9

9. When a mouse pointer hovers over an image on a web page the image changes to a different picture.

State the type of coding and the event used to implement this.

2

Type of coding \_\_\_\_\_

Event \_\_\_\_\_

#### 2017 Q16b

16. Jenny works for a website design company. Her latest project is to design and implement a website for Go Universe.

She creates the website below.

The screenshot shows the 'Go Universe' website, an online retailer for Go-related products. The header includes a search bar and navigation links for Go Game Sets, Go Boards, Go Stones, Go Books, Downloads, My Account, and a Cart. The main content area is titled 'Go Books for Beginners' and displays a list of 5 items. The list includes columns for Title, Author, Rating, and Price. The items are: 'Learn to play Go' by Lea Mahmood (5 stars, £7.99), 'Go - The world's best board game' by Penny Holding (5 stars, £10.50), 'So you want to play Go' by Xa Cho (4 stars, £5.50), 'Go, A complete introduction' by Bob Tomlinson (4 stars, £9.95), and 'An Introduction to Go' by Margaret Reid (3 stars, £15.00). On the left side, there are filters for Publisher, Level, and Price.

Go Books for Beginners	
5 items	Sort By Popularity (high-low) ▼
Title	Author
Learn to play Go	Lea Mahmood
Go - The world's best board game	Penny Holding
So you want to play Go	Xa Cho
Go, A complete introduction	Bob Tomlinson
An Introduction to Go	Margaret Reid

- (b) Identify one area of this website where Javascript has been used to add interactivity.

1

## TESTING

*Describe and exemplify testing: matches user interface design; links and navigation work correctly; media such as text, graphics, and video display correctly; consistency*

### SQP Q15c

- (c) The golf club's website is tested by club members. Two members report that the video does not display correctly.

Describe two additional tests that could be performed on the website. **2**

Test 1 \_\_\_\_\_

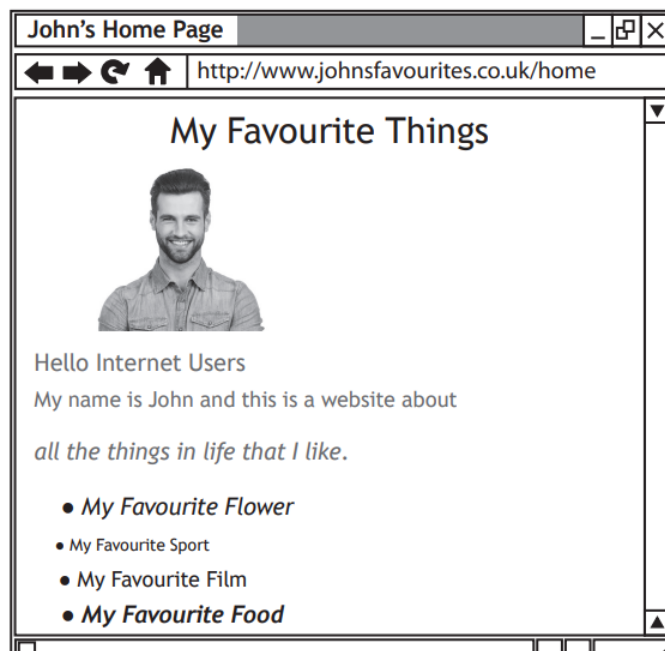
\_\_\_\_\_

Test 2 \_\_\_\_\_

\_\_\_\_\_

### SQP Q18a

18. John has created a website listing his favourite things. The home page of his website is shown below.



- (a) John tests his website using a browser and notices a lack of consistency. Explain why John's home page lacks consistency. **2**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**SQP 18d(ii)**

(ii) The CSS rules below contain three styles each.

```
p {font-size:12px; color:DarkGreen; text-align:left}  
#latin {font-size:10px; font-style:italic; color:LightGreen;}
```

Both of these rules have been applied to the text below the graphic.

```
p ID="latin">Magnolioideae</p>
```

Describe how the text below the graphic will look when it is viewed in a browser.

**3**

---

---

---

**2018 Q8**

8. Describe one aspect of consistency that should be considered when testing a website.

**1**

---

---

**2018 Q18g**

(g) Web developers test the consistency of the web pages they create.

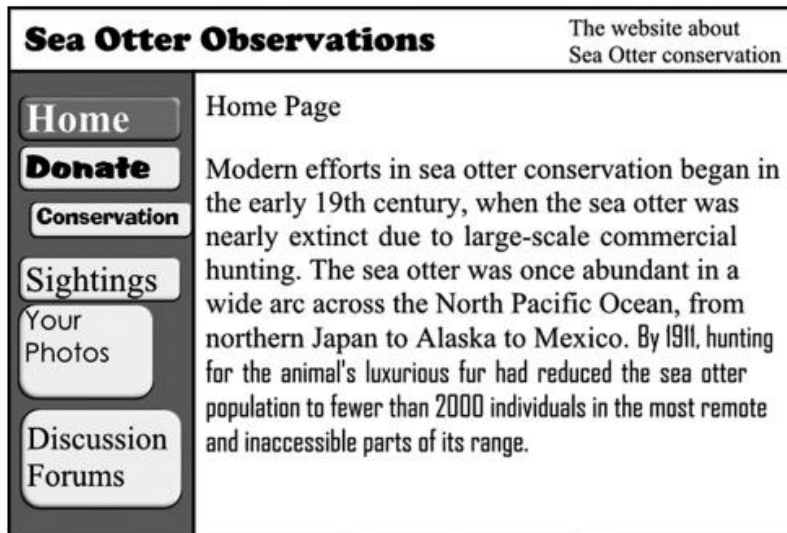
State two other examples of tests that can be carried out on a web page.

**2**

Test 1 \_\_\_\_\_

Test 2 \_\_\_\_\_

20. Sea Otter Observations uses a simple website to provide information about otters. The home page for the website is shown below.



- (a) Identify two examples of poor consistency in the user interface above.

2

Example 1 \_\_\_\_\_

\_\_\_\_\_

Example 2 \_\_\_\_\_

\_\_\_\_\_

## EVALUATION

*Evaluate solution in terms of fitness for purpose*


2019 Q6

6. An archaeology club wants a website to provide information about the club and how to join.

A screenshot of the completed home page is shown below.

# Archaeology Club

Welcome to the website for the Archaeology Club. Here you will find links to the different pages on the site as well as lots of information about different aspects of archaeology.



Areas of the site:

- [Fossils](#)
- [Dino facts](#)

The club is part of the [British Archeological Society](#)

Evaluate the website in terms of its fitness for purpose.

1

---

---

**2019 Q18c**

- (c) During testing it was found that the external hyperlink shown below did not navigate to the Scottish Basketball League website.

```
<a href="ScottishBasketballLeague.html">Scottish  
Basketball League </a>
```

Describe the problem with the addressing that has been highlighted by this testing.

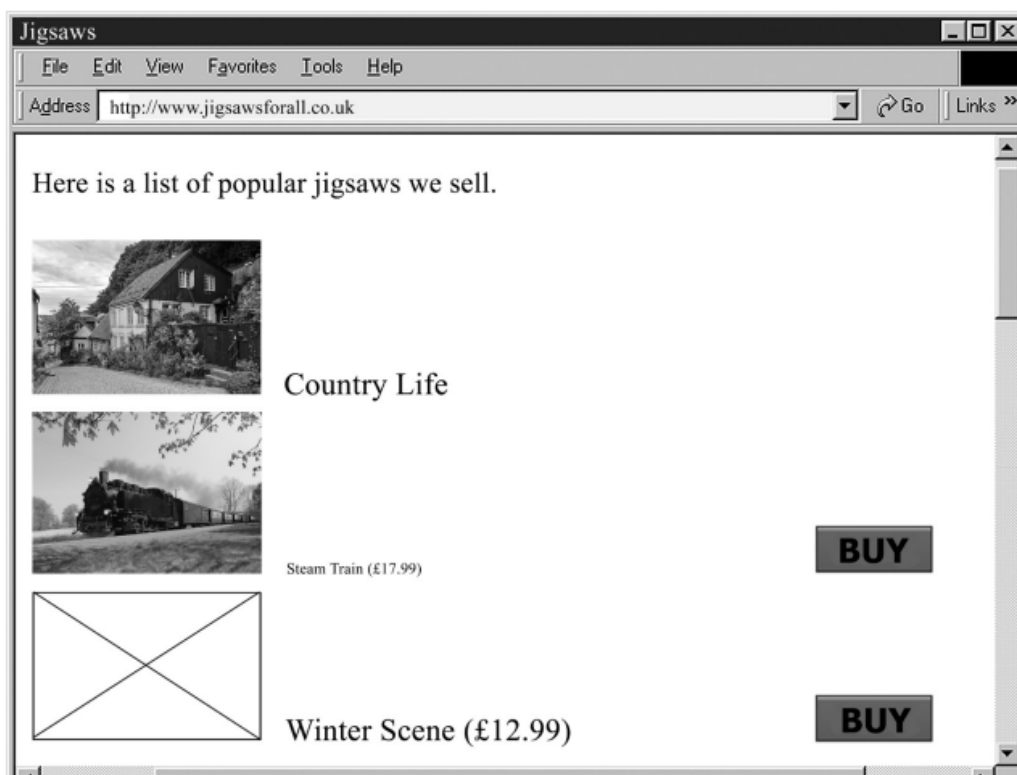
1

---

---

**2017 Q2**

2. The web page below was created to sell jigsaws online.



State two reasons why the above web page is not fit for purpose.

2

Reason 1 \_\_\_\_\_

\_\_\_\_\_

Reason 2 \_\_\_\_\_

\_\_\_\_\_