

What tags does every web page need?

All HTML web pages must start with the following code

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>
</body>
</html>
```

What is the purpose of the <body> tags?

The body tag in HTML defines the documents body. This is where all the main content such as information and pictures are located.

<body>

<h1> All the information on a website goes here

</body>

Write the tag that you use for a paragraph

In HTML a new paragraph (or line) is created using the <p> tag. Each new line you wish to have has its own <p> tag.

<p>This is a paragraph.</p>

What is the purpose of the <head> tags?

In HTML the <head> tag, includes the metadata and information about the webpage. I.e. this will include the page title and any search engine information to help the website become more noticed when searching via a search engine such as Google or Bing.

What does HTML stand for?

HyperText Markup Language

Write the tag that you use for a line break

In HTML the line break tag is

What is the correct HTML for inserting an image?

```

```

What is the correct HTML for creating a hyperlink?

```
<p><a href="https://www.davidbeckham.com/">Visit  
for more information!</a></p>
```

How do you change the colour of text in HTML?

```
<p style="color:red;">Hello</p>  
<p style="color:orange;">Hello</p>  
<p style="color:yellow;">Hello</p>  
<p style="color:green;">Hello</p>  
<p style="color:blue;">Hello</p>  
<p style="color:purple;">Hello</p>
```

How Do you make text bold in HTML?

```
<b>This makes text Bold</b>
```

What is the correct HTML code for changing the width of a an image in HTML?

```

```

What is the correct HTML code for changing the Height of a an image in HTML?

```

```

What is a white hat hacker and what do they do?

A white hat (or a white-hat hacker, a whitehat) is an ethical security hacker. Ethical hacking is a term meant to imply a broader category than just penetration testing. Under the owner's consent, white-hat hackers aim to identify any vulnerabilities or security issues the current system has.

What is a black hat hacker and what do they do?

Criminals who intentionally enter computer networks with malicious intent are known as "black hat hackers". They may distribute malware that steals data (particularly login credentials), financial information, or personal information (such as passwords or credit card numbers).

What is a grey hat hacker and what do they do?

A grey hat hacker is an individual who engages in hacking activities without explicit owner's permission but with non-malicious intent. These individuals aim to identify and expose vulnerabilities in computer systems or networks to help organizations improve their security.

What is shouldering?

Shouldering is looking at someone's information over their shoulder, for example looking at someone enter their PIN in a shop or at a cashpoint. A person can prevent this by using their hand to cover the keypad as they type their PIN, or being aware of people around them when typing in PINs.

What is a name generator attack? Why are they popular?

A name generator attack is an attack in which the victim is asked in an app or social media post to combine a few pieces of information or complete a short quiz to produce a name. This information is then often used to try and hack their account i.e. by finding out things like their pets name which is often a password reset question

What is Phishing?

Phishing is when attackers send scam emails (or text messages) that contain links to malicious websites. The websites may contain malware (such as ransomware) which can sabotage systems and organisations. Or they might be designed to trick users into revealing sensitive information (such as passwords), or transferring money.

Explain what Malware is and what it is intended to do?

Malware, short for "malicious software," is a type of software designed to harm, exploit, or take unauthorized control over a computer system or other devices like smartphones and tablets. Think of it like a digital version of germs that can make your computer sick.

Types of Malware

There are several types of malware, each with its own nasty trick:

- **Viruses:** These are programs that attach themselves to other software and spread when you run the infected program. They can delete files, steal information, or even make your computer stop working.
- **Worms:** Similar to viruses, but they don't need to attach to other programs. They can spread by themselves through networks, like the internet, and cause harm.
- **Trojans:** Named after the Trojan horse from Greek mythology, these look like useful programs but contain harmful code. Once you run them, they can give hackers control over your computer.
- **Spyware:** This type of malware spies on you, collecting personal information like passwords and credit card numbers without you knowing.
- **Ransomware:** This locks your computer or files and demands money (a ransom) to unlock them.
- **Adware:** This shows you unwanted advertisements, often in a way that's hard to get rid of, and sometimes it can also track your browsing habits.

What is a DoS attack?

A denial-of-service (DoS) attack is a malicious attempt to overwhelm a web property with traffic in order to disrupt its normal operations.

What is a DDoS attack?

A distributed denial-of-service (DDoS) attack is a malicious attempt to disrupt the normal traffic of a targeted server, service or network by overwhelming the target or its surrounding infrastructure with a flood of Internet traffic.

What is an internet bot?

An Internet bot, web robot, robot or simply bot (an abbreviation of robot), is a software application that runs automated tasks (scripts) on the Internet, usually with the intent to imitate human activity, such as messaging, on a large scale. An Internet bot plays the client role in a client–server model whereas the server role is usually played by web servers. Internet bots are able to perform simple and repetitive tasks much faster than a person could ever do. The most extensive use of bots is for web crawling, in which an automated script fetches, analyzes and files information from web servers. More than half of all web traffic is generated by bots.

What is a Botnet?

A network of private computers infected with malicious software and controlled as a group without the owners' knowledge, e.g. to send spam.

What is Python?

Python is a very powerful programming language used all over the world for various computer programs.

Who uses Python?

Many platforms use Python such as Google, YouTube, Netflix, Instagram

How is a simple text string printed in Python?

```
print ('Hello World')
```

What are the 5 syntax rules?

- 1 Capital letters
True not true, False, not false
- 2 Indentation
that's the blank space to the left
- 3 Brackets
`raw_input("what is your name")`

- 4 use of colons
`while True:`
- 5 Speech marks
`print "hello"`

How do you add a basic user input in Python (i.e. a name is stored then returned)

```
< > main.py
1 answer = input ('What is your name?')
2 print (answer)
3 input ()
```

How can a Python program store multiple variables, then return a statement with those stored variables?

```
< > main.py
1 name = input('What is your name?')
2 age = input('What age are you?')
3 school = input('what school do you go to?')
4 print('Hello',name, 'you are ',age,'years old', school, 'is great!')
5 input()
```

What code is used to check if a user input is correct?

```
< > main.py
1 age = int(input("How old are you?"))
2 if age >= 70:
3     print("You are aged to perfection!")
4 elif age == 50:
5     print ("Wow, you are half a century old!")

< > main.py
1 question = input("What is my favourite colour?")
2 if question == "yellow":
3     print("You know me well!")
4 elif question == "blue":
5     print("I like blue a bit")
```

What are the following Data Types in Python?

Data Type	Example
String	Burrows
Char (Character)	D
Boolean	Y or N / True / False
Integer	77
Float (Real)	77.77

Char	A Single character	A, T, £, *, 7
String	Sequence of characters	Hello%
Boolean	Result of a decision	True/False
Integer	Whole numbers	32
Real / Float	Numbers - decimal places	32.09

What is a Binary?

Binary numbers are **1** and **0** (base 2). This is what all computers instructions consist of.

0 = Off, 1 = On

What is Denary?

Denary numbers are the numbers we use in our everyday lives. The numbers 1-10 (base 10)

What is Hexadecimal?

Hexadecimal is a number system which also uses letters from the alphabet. I.e. 2c or b2

How is Denary Converted to Binary?

128	64	32	16	8	4	2	1
1	0	0	1	0	1	0	1

One bit (1b)

One byte (1B)

Each bit can either be **on (1)** or **off (0)**
Each bit represents an amount.

For example on the left

123 = on

16 = on

4 = on

1 = on

The total of all these added together is the Denary number

10010101 [binary] = **144** [Denary]

How is Binary converted to Hexadecimal?

1. The binary number is split in half into two Nibbles

8 bits	128	64	32	16	8	4	2	1
1 or 0	1	1	0	1	0	1	1	1

[Nibble 1]

[Nibble 2]

[Nibble 1]

8	4	2	1
1	1	0	1

8 + 4 + 1 = **D**

[Nibble 2]

8	4	2	1
0	1	1	1

4 + 2 + 1 = **7**

HEX

D7

As the number cannot go higher than 9, 10 becomes A, 11 is B, 12 is C etc

How are binary numbers added together? (Binary addition)

Calculation	Result
$0 + 0 = 0$	Place a 0 in the box
$0 + 1 = 1$	Place a 1 in the box
$1 + 1 = 10$	Place a 0 in the box, carry the 1
$1 + 1 + 1 = 11$	Place a 1 in the box, carry the 1

What is ASCII/Unicode?

ASCII and Unicode are two popular encoding schemes. ASCII encodes symbols, digits, letters, etc., whereas Unicode encodes special texts from different languages, letters, symbols, etc

How are binary numbers divided/multiplied?

Binary shifts (also known as logical shifts) are used when multiplying or dividing binary numbers by the power of 2^1 , 2^2 , 2^3 , 2^4

	128	64	32	16	8	4	2	1
Original Number 24	0	0	0	1	1	0	0	0
New Number 48	0	0	1	1	0	0	0	0

When multiplying you will have a number missing at the end. Always replace with a 0

	128	64	32	16	8	4	2	1
Original Number 24	0	0	0	1	1	0	0	0
New Number 96	0	0	0	0	0	1	1	0

When Dividing you will have a number missing at the end. Always replace with a 0

What is an audience?

An audience is the person you are aiming a product or design at. This could be based on where they live, their age, their gender or how much money they have to spend. Typically an audience is defined by the person a company or client wants to appeal to.

What is purpose when talking about a media product?

The purpose is what it needs to achieve. This could be to entertain people, or to inform them about a specific product or service.

What is a requirement?

This is something which needs to happen i.e. a client might ask that their product features a green background and three pages.

What is a visualisation diagram and why are they used?

A visualisation diagram is a mockup or layout of how a final product should look. These are used by designers and clients so they can share how they feel a product will look like once it has been designed. Visualisation diagrams are taken into design meetings or sent to clients to check if they are happy with the layouts, styles or colour schemes of a digital product. .

How can a visualisation diagram show interactivity or how animation may work?

A visualisation diagram is often sketched by hand or using digital drawing tools. It is often referred to as a wireframe of the product, therefore the best way to show interactivity is by explaining it. For example someone could draw a series of navigation buttons and annotate them to explain what happens when they are pressed. One button could change from green to blue. Another button could show a dropdown list appear with more options to help the user of the system. In design, the more detail the better, i.e exact colour shades, font size, style and alignment are all important to allow the person designing the visualisation diagram to know what the client needs.

What is an interactive digital media product?

A IDMP is an interactive interface which lets you navigate (move around) using buttons, videos, text and sound. It will often try to advertise or promote a topic or service

What is an interface?

An interface is the environment that a person uses when interacting with a computer. This is the method of linking the computer and human so the two can work together.

How can colour be used effectively?

By avoiding bright colours on light text, and by ensuring colours compliment each other, they can be used to make a product more appealing.

What ways can users interact with the following?

Audio

For example if a user clicks a button, a sound could play. Or background music could play on the interface

Mouse

This can be used to click, drag and drop items on an interface

Touchscreen

This can be used similar to a mouse, but you can swipe & pinch also

Haptic

This is when you touch a button and a small vibration happens so you know you have pressed a button

Keyboard

Allows you to press keys and enter text.



What improvements would you make to this design?

I would reduce the amount of text to make it clear to read. I would also ensure the logo at the top right is larger so people could clearly see the text.

What's good about this design?

Its colorful and has clear buttons (navigation) which means people should be able to find what they need

What's not as good about this design?

The text is quite boring and could be more interesting with some formatting and layouts.