Basic I.T Skills Training

Delivered by

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Humberjob HUB

Lesson Five

1. Logic
2. Basic System Use
3. Internet & Cyber Security
4. Ongoing Support

This is the last lesson! Well done!

- We've covered a lot of different subjects over the last few weeks. I know not all of it has been relevant to everyone's personal ambitions or aims, but I've tried to cover what everyone said they were struggling with or wanted to do – so thanks for hanging on in there!
- This week is a recap of a lot of the subjects we've covered over the course.
- Towards the end, there will be a slide with resources to support you moving forward. Remember: Just because lessons have ended, it doesn't mean resources aren't there to help you learn.

Logic

Logic is the basis of problem solving and computer systems. We can use it to work through issues we encounter rationalising solutions or finding new ways to solve problems.

Logic

- A reasoning system to get the most practical answer based on the evidence.

Statements	Not Statements
• 4 + 2 = 3 x 2 • John. F. Kennedy was U.S President • Hull is not a Northern city. • Edward is tall and drinks tea.	• *Have you done* **it**? • *Turn* the **computer** off. • *Pass me* the **cup**.

Logic

- Lets put the theory to the test by solving a problem together.

Logic

- A farmer with a fox, a goose and a sack of corn needs to cross a river. The farmer has a row boat, but there is only room for the farmer and one of his three items. Unfortunately, both the fox and the goose are hungry. The fox cannot be left alone with the goose, or the fox will eat the goose. Likewise, the goose cannot be left alone with the sack of corn, or the goose will eat the corn.

- How does the farmer get everything across the river?

Logic

1. Goose – Leaves fox with sack of corn
2. Then Fox, leaving corn **but** take Goose back to the other side.
3. Take sack of corn.
4. Collect Goose.

Does sort of play a trick in the wording – “only room for one item” – but doesn’t say the items can’t be taken both ways!

Basic System Use

Hardware and Software work in tandem to help solve problems communicating with people through a graphical user interface (GUI). Humans can also communicate using peripherals and interfaces.

Basic System Use

- Computer systems are made up of hardware (the physical element) and the software (the virtual element).
- Hardware can comprise a desktop computer, laptop, smart phone or tablet.
- Software comes in two forms – Apps which users install and use on their machine & the Operating System which helps the hardware and software work together. (Windows, ChromeOS, MacOS, Linux).

Hardware

- We also know that some hardware can be “dangerous” such as the WiFi pineapple

Software

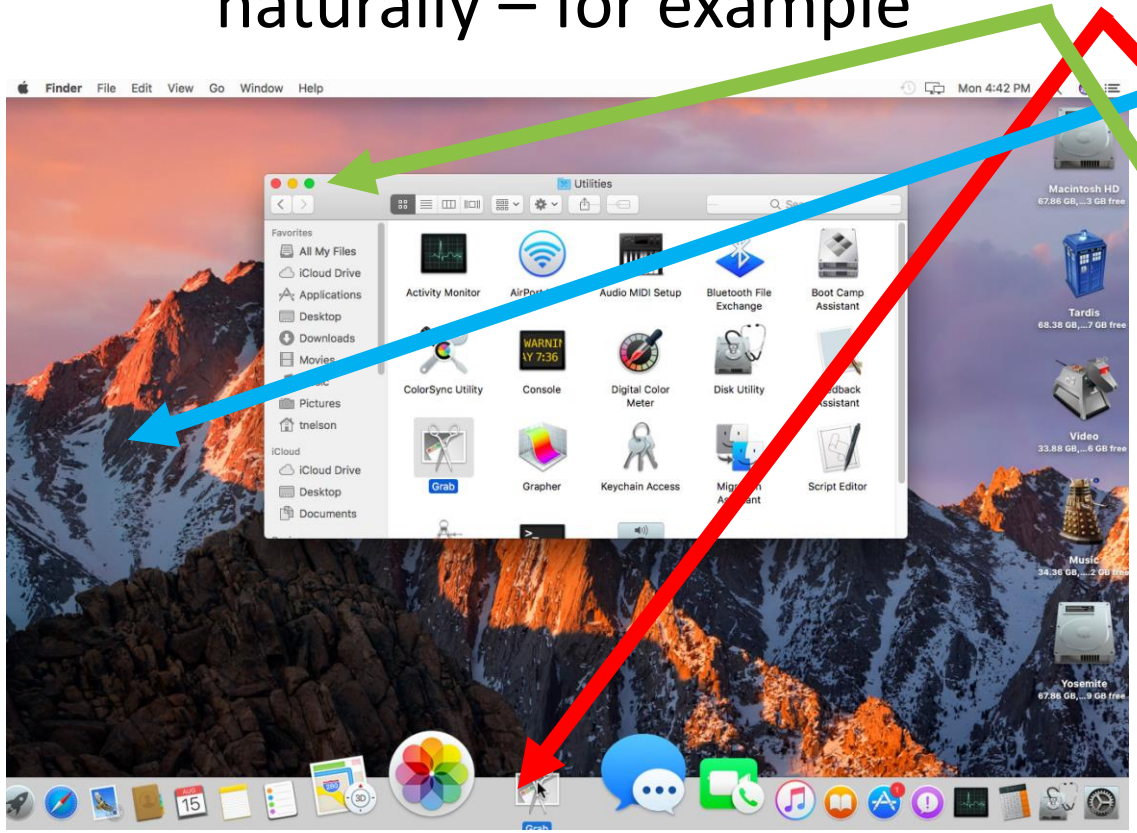
- Non-physical or “virtual” element which runs on the hardware.
  - Software usually runs inside of an operating system – like Windows, MacOS, ChromeOS or Linux.
  - On Mobile, These are called “apps” and run on Android or iOS.
- Can be thought of as a set of instructions to the computer, normally issued by human interaction.
  - Exception being if the computer has automated scheduling setup or the program has code which executes at certain times.

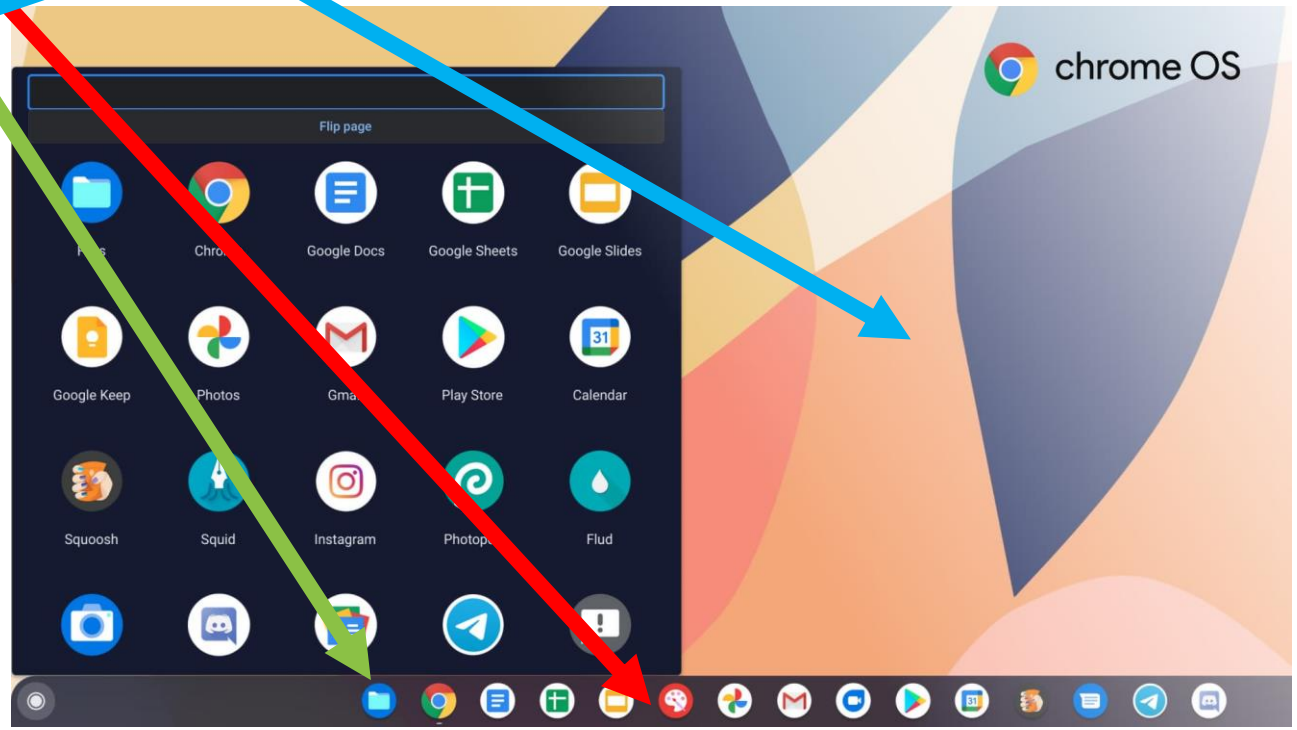
Operating Systems

- Manages computer hardware and software.
- Allocates resources and schedules resource use for software.
- Often comes with some basic software and the ability to adjust preferences to suit the person using the device.
- Windows, Mac OS, ChromeOS, Android and iOS are all examples of operating systems.

Basic System Use

- The GUI (graphical user interface) has common elements across all systems. Learn this principle and what they do and the rest will come naturally – for example





Tea break

After the break: Internet / Cyber Security

Internet & Cyber Security

The internet is a system of inter-connected computers governed by protocols. We can use the internet to make tasks easier, find information and stay connected but it’s important to maintain some distance between your real self and your identity on the internet – in other words, protecting yourself.

Internet

- We interact with the internet in various ways, but we've learned how to interact using **Browsers** and social media. This includes sending commands to find information, setup accounts, send messages and make calls.
- But the basic principle is the same – we are sending a communication across a network of computers to interact with a service. It's a conversation!
- They are usually one of these GET, POST, PUT, DELETE – We GET search results. We POST an account. We PUT our account details and DELETE posts.

Internet

- Now, that can be a bit of a mouthful to remember… so here's a better way –

  - **C** – create, an action that creates a record, entry or object on the internet.
  - **R** – read, an action that retrieves information.
  - **U** – update, an action which results in edited or updated information.
  - **D** – delete, an action which deletes any information.

Browsers

- What is a browser?
  - Could be described as a persons portal to the internet.
  - It allows for requests to be sent across the internet for information a person is looking for and returns that information in a (hopefully) readable format.
  - Provides access to previously saved information, such as bookmarks and pinned tabs.
  - If configured, it syncs information across devices too.

Browsers

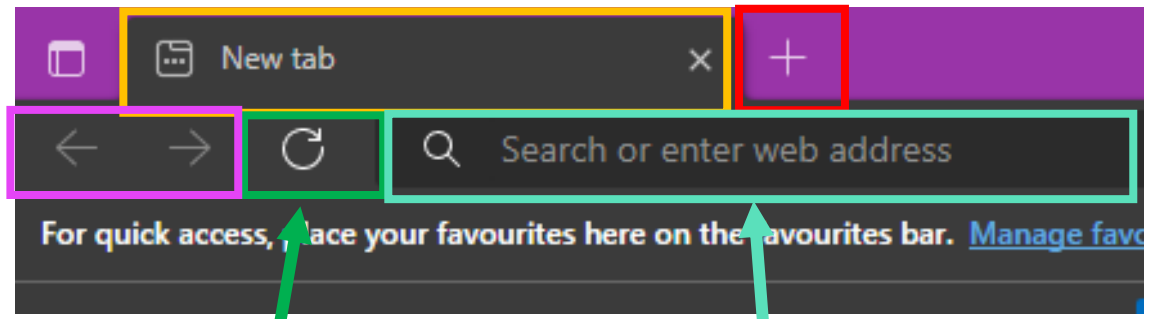
Tab

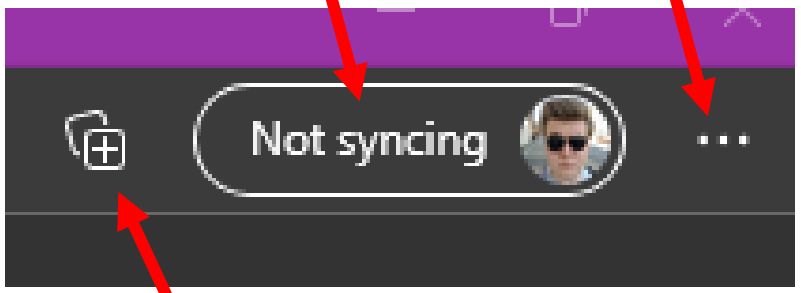
New Tab Button

Sync status

Menu to settings, bookmarks etc.

Backwards/Forward
s Buttons



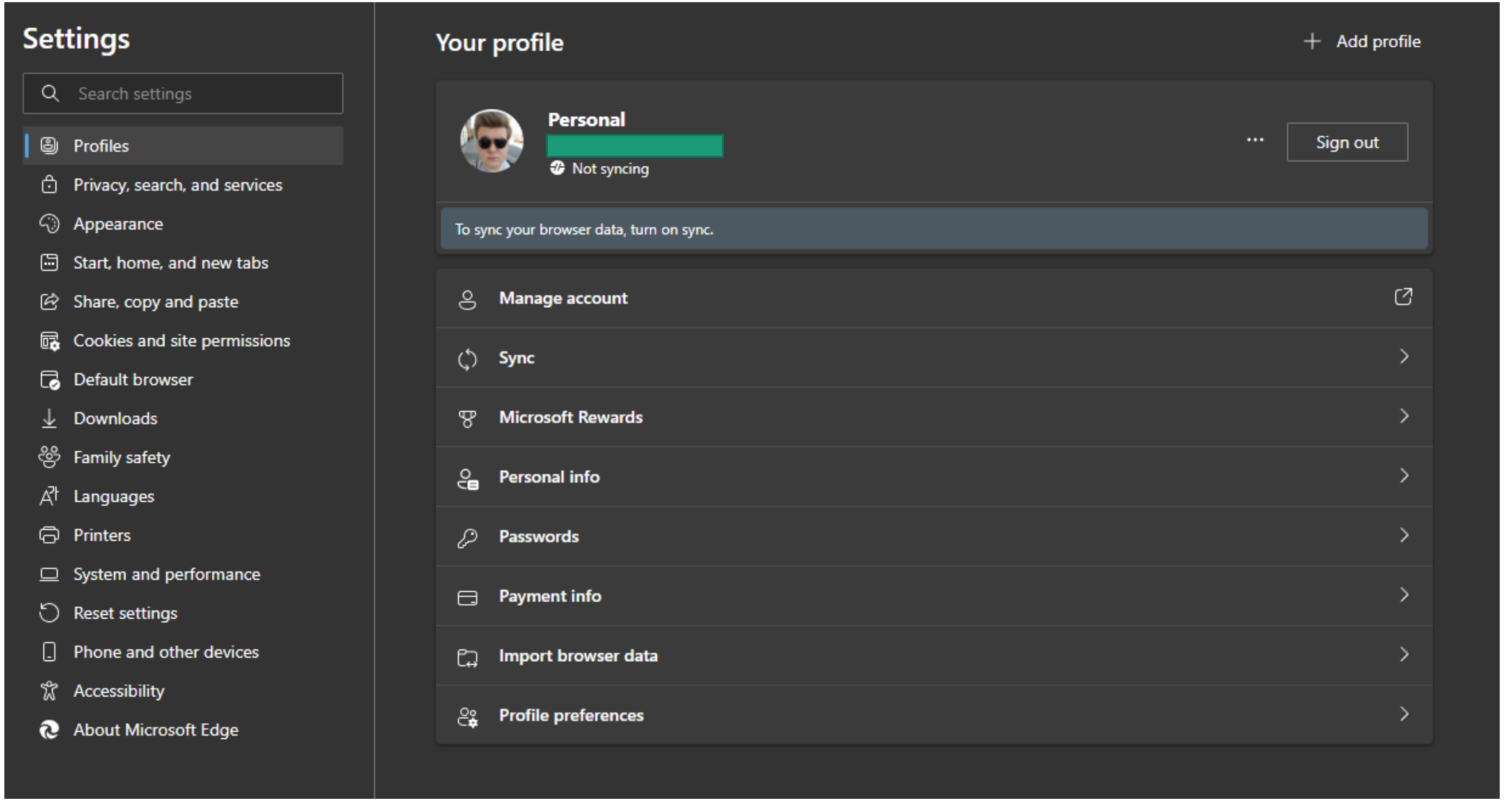


Refresh button

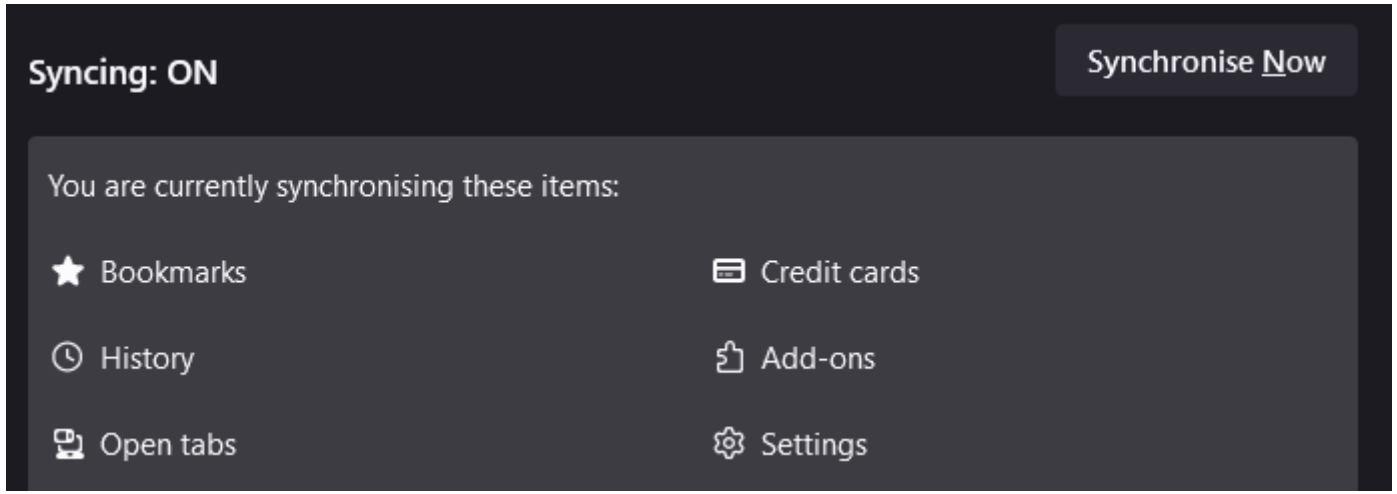
Address bar.
Most browsers allow both searches and direct URLs – such as google.com or facebook.com.

Collections (saved content for later)

Browsers


Settings
Search settings
Profiles
Privacy, search, and services
Appearance
Start, home, and new tabs
Share, copy and paste
Cookies and site permissions
Default browser
Downloads
Family safety
Languages
Printers
System and performance
Reset settings
Phone and other devices
Accessibility
About Microsoft Edge
Your profile
Add profile
Personal
Not syncing
Sign out
To sync your browser data, turn on sync.
Manage account
Sync
Microsoft Rewards
Personal info
Passwords
Payment info
Import browser data
Profile preferences

Browsers


Syncing: ON
Synchronise Now
You are currently synchronising these items:
Bookmarks
Credit cards
History
Add-ons
Open tabs
Settings

Browsers





Google Chrome	Microsoft Edge	Mozilla Firefox	Brave Browser	Safari Browser
- Built by Google - Most used browser in the world presently. - Doesn't block cookies by default - Can manage passwords / credit cards & google accounts. - Commercial	- Built by Microsoft - Uses the same "engine" as Google Chrome. - Blocks some cookies by default - Syncs Microsoft account + other Microsoft ecosystem services. - Commercial.	- Built by the Mozilla Foundation - Does not use Chromium engine. - Blocks third party cookies / trackers by default. - Optional account sync. (Mozilla account) - Open Source	- Built by Brave Software Inc - Uses Chromium (same as Google Chrome) - Privacy focused but does sell adverts + other services through it's software. - Open Source	- Built by Apple - Up to 50% faster than Chromium based browsers (based on 2020 tests) - Restricts some ad blocking - Commercial

Online Safety

- Strong passwords are a must, preferably 30-40 characters. This is why using a password manager is advisable.
- Passwords with family names, pets, dates of birth, nicknames, etc will be cracked easily. (Less than 10 mins)
- Passwords that are re-used will make you vulnerable.

- **Exercise:** Go to https://haveibeenpwned.com and enter your email, see if you've been pwned. This means your details have been leaked somewhere and are vulnerable.

Online Safety

We can use password managers to store complicated passwords and login details for ease of administration.

In previous lessons, we have used LastPass – lastpass.com – as the password manager.

We also used https://strongpasswordsgenerator.net/ to generate strong passwords.

Online Safety

- When using social media, always review your privacy settings and only share information / posts you would share in person.
- Commenting, liking/reacting, sharing and joining groups can let people see your affiliations and interactions.
- Remember, Harry Miller v Humberside Police is the legal precedent re: online sharing, so if you do get into problems. Refer to that.

- Zero Trust – Assume things you post could be used against you before you post. Yes, yes.. I know it sounds paranoid!

Online Safety

- Buyer beware
  - Do research on the site/vendor – and ask for recommendations
    - Check the company on companies house to see if they actually exist (only works for UK companies).
    - Check the bottom of the website to see if they have a privacy/returns policy.
    - Check review sites, or social media presence.
    - Step back from the situation and ask yourself if there is an unnecessary urgency in the transaction or the transaction is confusing (e.g. Not a straight for exchange of cash for goods/services).
- Shop smart – check around for cheaper prices.
  - https://smile-collections.com/?s=shed&post_type=product
  - https://uk.trustpilot.com/review/smile-collections.com
- Stranger danger – Unless you know the person you are **interacting** with in person, treat them as a stranger and do not give out personal information. For any reason.

Search

- We can use search to get highly specific results which can help determine logic in a problem or guide us to completing a task.
- Quite literally, we can have a computer give us the information to help us overcome the issue we are facing with the computer!
- The way to do this is by using “*operators*” to guide the search results.

Search

1. Open your browser
2. In the address bar, type google.com
3. The first search we will perform is to search a specific site
    1. In the search bar, type:

site: hull.gov.uk bins

Once you hit enter, you should be presented with results from Hull Council regarding bins and bin collection.

Search

Now lets try an explicit phrase –

1. Go back to google.com
2. Hit Images
3. search for **site: amazon.com "Fluffy Bunnies"”**

This time, you’ll see all images from Amazon which contain the term “Fluffy Bunnies”

Further Support

Although this is the end, we don’t have to say goodbye. There is plenty of after care and support available.

Further Support

- Humber Job Hub - 1-1 Sessions.
- Discord – Free, available 24/7. Link is https://discord.gg/DmHbB2PpVn
- Email – edward.richmond@parentull.org
- Facebook - facebook.com/codheadclub


That's all Folks!