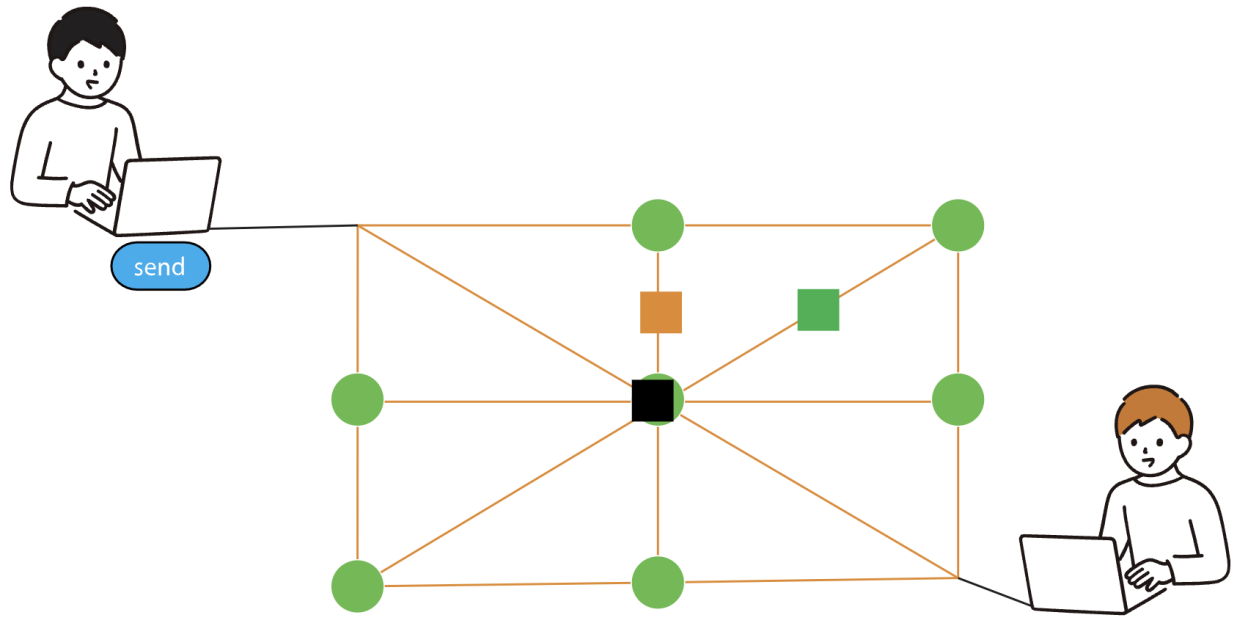




The Internet is a packet-switching network. Packets of data are routed from device to device. For example, from your computer (a client) requesting information from a web server eg Spotify's or Facebook's server.

One key consideration is that data being transferred from one device to another on the Internet must be delivered **reliably**.

To find out more how this is achieved, watch [this](#) video and answer the following questions:

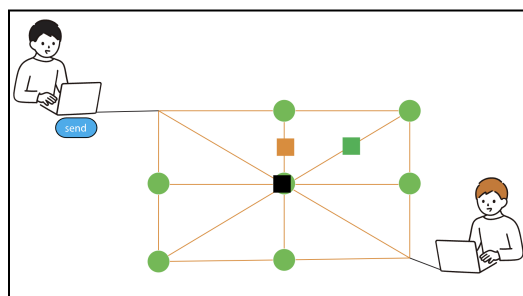
| Question                                                                                                                            | Answer   |
|-------------------------------------------------------------------------------------------------------------------------------------|----------|
| When connecting to a web <b>server</b> to request, for example a song, does your ( <b>client</b> ) device have a direct connection? | YES / NO |
| Does every wire and computer work all the time on the Internet?                                                                     | YES / NO |
| What is a file broken down into before it is transmitted across the Internet?                                                       |          |
| Do these p _ _ _ _ _ s follow a fixed path?                                                                                         | YES / NO |

|                                                                                                                                                                                            |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| What device helps to route p _ _ _ _ _ s across the Internet?                                                                                                                              |  |
| What 2 pieces of information does each p _ _ _ _ _ store, among others?                                                                                                                    |  |
| When routers on the Internet become unavailable, p _ _ _ _ _ s can still be delivered to the destination address. Why is this so?                                                          |  |
| The Transfer Control Protocol is responsible for ensuring every p _ _ _ _ _ which makes up a file is delivered. What happens if any of the p _ _ _ _ _ s do not arrive at the destination? |  |
| Because of r _ _ _ n _ _ n _ _ , the Internet is f _ _ _ _ t _ _ _ _ n _                                                                                                                   |  |

All of what the Internet (and other networks) achieve is a lot to do with protocols.

A protocol is a set of established rules that must be followed in order to achieve a task.

The Internet Protocol (IP) and the Transfer Control Protocol (TCP) work with other protocols such as HTTP to ensure that data is transferred reliably across the Internet.



PAST PAPER QUESTION

Explain how data is transmitted using packet switching.

[5]