**Layers in the TCP/IP stack**

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| **Application layer**  Reassembles communication when received  Adds frame header and footer to packets  Interacts with the users system (e.g. synchronising files) |
| **Transport layer**  Splits communications into packets  Involved with packet routing/moving datagrams to the next network node (router)  Moves packets between two internet hosts.  Deals with segmentation  Establishes end to end communication  Supplies appropriate IP addresses for source and destination (when sending packets)  Chooses a port number for client and destination  Establishes, supervises and maintains a connection between two communicating applications (processes), one on each host  Relieves applications from having to deal with the problems of connecting hosts  Detects when a connection is broken |
| **Network/IP layer**  Deals with error control(acknowledgements/retransmission)  Combines IP address and Port to create a socket  Manages flow control  Receives packets from layer above and adds MAC addresses  Packets are numbered  Strips MAC address when receiving  Strips IP addresses when receiving packets |
| **Link layer**  Includes network card drivers  Establishes a virtual path  Handles all the physical details of interfacing with the cable, including the network interface card and a device driver.  Deals with physical connection/cabling |

Put the following statements into the appropriate layer within the TC/IP stack above:

* Includes network card drivers
* Splits communication into packets
* Establishes a virtual path
* Deals with error control (acknowledgements/retransmission)
* Involved with packet routing / moving datagrams to the next network node (router)
* Re-assembles communication when received
* Moves packets between 2 internet hosts
* Deals with segmentation
* Combines IP address and Port to create a Socket
* Establishes end to end communication
* Adds frame header and footer to packets
* Handles all the physical details of interfacing with the cable, including the network interface card and a device driver
* Deals with physical connection/cabling
* Supplies appropriate IP addresses for source and destination (when sending packets)
* Chooses a Port number for client and destination
* Interacts with the user’s system (e.g. synchronising files)
* Establishes, supervises and maintains a connection between two communicating applications (processes), one on each host
* Manages flow control
* Receives packets from layer above and adds MAC addresses
* Strips MAC address when receiving
* Packets are numbered
* Relieves applications from having to deal with the problems of connecting hosts
* Strips IP addresses when receiving packets
* Detects when a connection is broken