

## Network Programming Questions

What are the two things that identify a connection to a computer on the internet?

How many ports are available on a computer?

What are the four parts of a URL?

What useful methods does a URL object respond to?

What causes a MalformedURLException?

What causes a ConnectException?

How can we read text from an InputStream?

How can we build an Image object from a *gif* or *jpeg* file downloaded using *getContent*?

What is a URLConnection, and what methods does it understand?

Explain URL encoding.

How can we write to an HTTP site?

How can we create InetAddress objects?

What useful methods does an InetAddress object respond to?

How can we convert a signed byte into an unsigned byte?

What is a Socket object?

Describe the Socket constructors.

What useful methods does a Socket object respond to?

Explain the *finger* protocol.

Explain the *smtp* protocol.

What exception is thrown when an existing host has no service on the requested port?

How do we create a `ServerSocket`?

What useful methods does a `ServerSocket` object respond to?

Explain how *telnet* can be used to connect to a server running on a particular machine.

What do we need to do to define a protocol?

What must we do to ensure that a server responds to multiple clients, not necessarily at the same time?

What must we do to ensure that a server responds to multiple clients at the same time?

Why is *telnet* inadequate for connecting to the server on port 37?

How does UDP differ from TCP?

Describe some applications that work well with UDP?

Explain the `DatagramPacket` class and the `DatagramSocket` class.

Describe the `DatagramPacket` constructor used to build a packet to be sent.

Describe the `DatagramPacket` constructor used to build a receiving packet.

What happens if a receiving packet has insufficient room for the incoming bytes?

How do we convert a `String` object into an array of bytes?

How do we convert an array of character bytes into a `String` object?

How do we take normal Java data and put it into an array of bytes?

How do we extract normal Java data from an array of bytes?