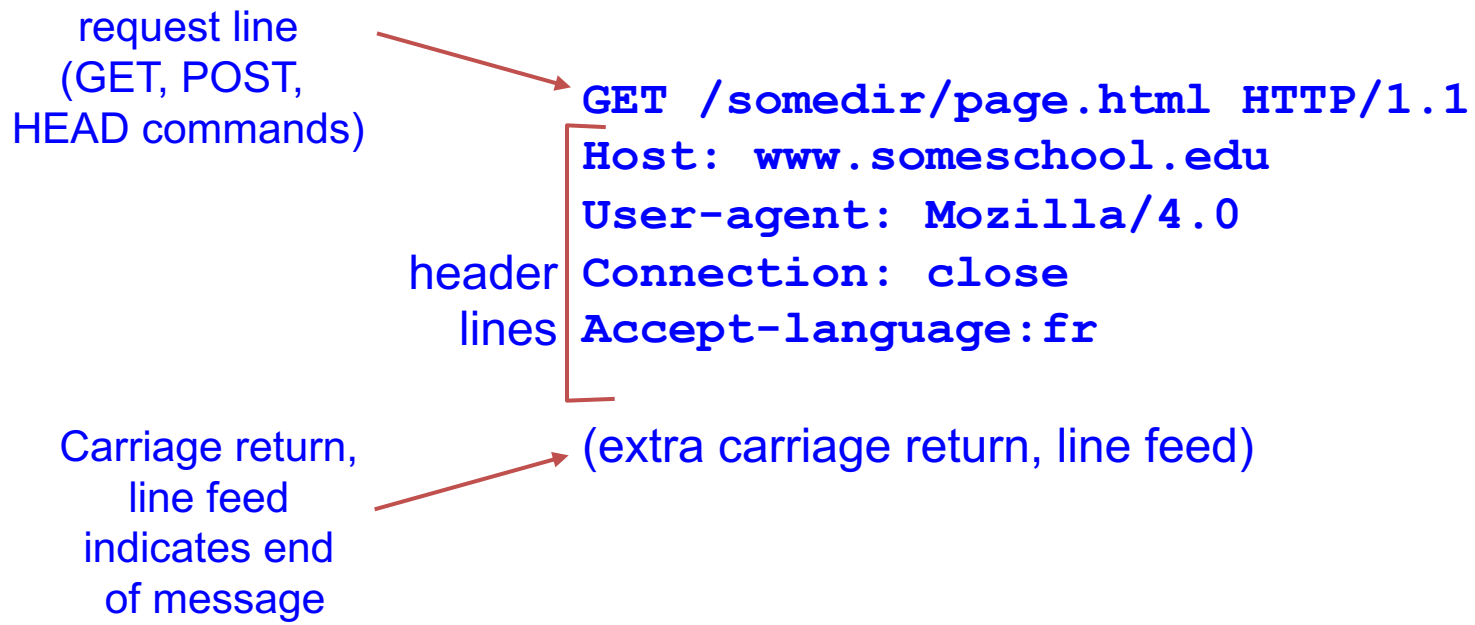
HTTP request message

- two types of HTTP messages: *request*, *response*
- HTTP request message:
  - ASCII (human-readable format)



Client Request Data

- When a user submits a browser request to a web server, it sends two categories of data:
  - Form Data: Data that the user explicitly typed into an HTML form.
    - For example: registration information.
  - HTTP Request Header Data: Data that is automatically appended to the HTTP Request from the client.
    - For example: cookies, browser type, browser IP address.

HTTP Request Header Data

- HTTP Request Header Data: Data that is automatically appended to the HTTP Request from the client.
  - For example: cookies, browser type, etc,

```
GET / HTTP/1.1
Accept: */*
Accept-Language: en-us
Accept-Encoding: gzip, deflate
User-Agent: Mozilla/4.0 (compatible;
MSIE 5.0; Windows NT; DigExt)
Host: www.yahoo.com
Connection: Keep-Alive
```

HTTP request headers

Accessing HTTP Headers

To access any of these Headers,	• use the HTTPServletRequest **getHeader()** method.
For example:	• String connection = req.getHeader("Connection");
To retrieve a list of all the Header Names, use the getHeaderNames() method.	• **getHeaderNames()** returns an Enumeration object.
For example:	• Enumeration enum = req.getHeaderNames();

Additional HTTP Information

getMethod()

- Indicates the request method, e.g. GET or POST.

getRequestURI()

- Returns the part of the URL that comes after the host and port. For example, for the URL: http://randomhost.com/servlet/search, the request URI would be /servlet/search.

getProtocol()

- Returns the protocol version, e.g. HTTP/1.0 or HTTP/1.1

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.util.*;

public class ShowRequestHeaders extends HttpServlet {
  public void doGet(HttpServletRequest request,
                    HttpServletResponse response)
      throws ServletException, IOException {
    response.setContentType("text/html");
    PrintWriter out = response.getWriter();
    String title = "Servlet Example: Showing Request Headers";
    out.println(ServletUtilities.headWithTitle(title) +
                "<BODY BGCOLOR=\"#FDF5E6\">\n" +
                "<H1 ALIGN=CENTER>" + title + "</H1>\n" +
                "<B>Request Method: </B>" +
                request.getMethod() + "<BR>\n" +
                "<B>Request URI: </B>" +
                request.getRequestURI() + "<BR>\n" +
                "<B>Request Protocol: </B>" +
                request.getProtocol() + "<BR><BR>\n" +
                "<TABLE BORDER=1 ALIGN=CENTER>\n" +
                "<TR BGCOLOR=\"#FFAD00\">\n" +
                "<TH>Header Name<TH>Header Value");
```


Continued...

```
 Enumeration headerNames = request.getHeaderNames();
    while(headerNames.hasMoreElements()) {
      String headerName = (String)headerNames.nextElement();
      out.println("<TR><TD>" + headerName);
      out.println("    <TD>" + request.getHeader(headerName));
    }
    out.println("</TABLE>\n</BODY></HTML>");
  }

  /** Let the same servlet handle both GET and POST. */

  public void doPost(HttpServletRequest request,
                     HttpServletResponse response)
      throws ServletException, IOException {
    doGet(request, response);
  }
}
```

CGI Variables

- In addition to HTTP Request headers, you can also determine additional information about both the client and the server:
  - IP Address of Client
  - Host Name of Client
  - Server Name
  - Server Port
  - Server Protocol
  - Server Software

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.util.*;

public class ShowCGIVariables extends HttpServlet {
  public void doGet(HttpServletRequest request,
                    HttpServletResponse response)
      throws ServletException, IOException {
    response.setContentType("text/html");
    PrintWriter out = response.getWriter();
    String[][] variables =
    {
      { "REMOTE_ADDR", request.getRemoteAddr() },
      { "REMOTE_HOST", request.getRemoteHost() },
      { "SERVER_NAME", request.getServerName() },
      { "SERVER_PORT", String.valueOf(request.getServerPort()) },
      { "SERVER_PROTOCOL", request.getProtocol() },
      { "SERVER_SOFTWARE", getServletContext().getServerInfo() }
    };
```


Continued….

```
String title = "Servlet Example: Showing CGI Variables";
   out.println(ServletUtilities.headWithTitle(title) +
               "<BODY BGCOLOR=\"#FDF5E6\">\n" +
               "<H1 ALIGN=\"CENTER\">" + title + "</H1>\n" +
               "<TABLE BORDER=1 ALIGN=\"CENTER\">\n" +
               "<TR BGCOLOR=\"#FFAD00\">\n" +
               "<TH>CGI Variable Name<TH>Value");
   for(int i=0; i<variables.length; i++) {
     String varName = variables[i][0];
     String varValue = variables[i][1];
     if (varValue == null)
       varValue = "<I>Not specified</I>";
     out.println("<TR><TD>" + varName + "<TD>" + varValue);
   }
   out.println("</TABLE></BODY></HTML>");
  }

}
```