

Computer Science 571 Exam #1
Prof. Papa
Tuesday, February 19, 2019, 6:00pm – 7:20pm

Sessions: SGM XXX [a-x] and SAL 101 [b-z]

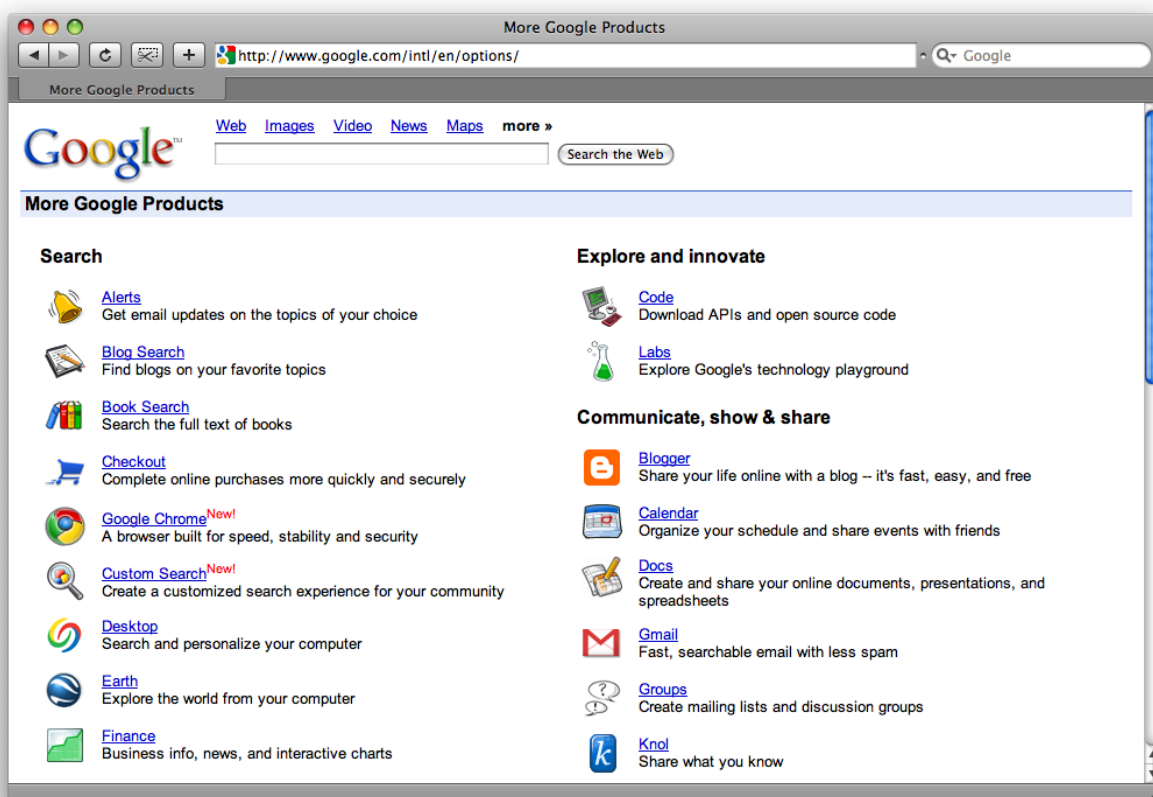
Name:

Id Number:

USC Email:

1. This is a closed book exam.
2. Please answer all questions.
3. Place all answers on the exam and return the entire exam

HTML Questions [20 pts]



Snapshot of the More Google Products Page

Below is the Google source code (slightly edited) with line numbers added, that produced the page above. Some lines are long and wrap around. Please answer all of the questions that follow the source code.

1. <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
2. "http://www.w3.org/TR/html4/loose.dtd">
3. <html>
4. <head>

```

5. <meta http-equiv="Content-Type" content="text/html; charset=UTF-8"/>
6. <title>More Google Products</title>
7. <script type="text/javascript" src="https://ssl.google-
analytics.com/urchin.js"></script>
8. <script type="text/javascript">
9.     _uacct='UA-18000-1';
10.    _utcp='/intl/';
11.    _uanchor=1;
12. </script>
13. <link media="screen" rel="stylesheet"
href="http://www.google.com/css/google.css" type="text/css">
14. <link media="screen" rel="stylesheet"
href="http://www.google.com/css/rc.css" type="text/css">
15. <link media="screen" rel="stylesheet" href="../css/styles.css"
type="text/css">
16. <link media="screen" rel="stylesheet" href="../css/options.css"
type="text/css">
17. </head>
18. <body onload="document.gs.reset()">
19. <div id="container">
20. <table id="hc" width="100%" cellpadding="0" cellspacing="0">
21. <tr>
22. <td id="logo">
23. <a href="/webhp?hl=en"></a></td><td
align="left" nowrap id="hc-links">
24. <script type="text/javascript">
25.     function qs(el) {
26.         if (window.RegExp && window.encodeURIComponent) {
27.             var qe=encodeURIComponent(document.gs.q.value);
28.             if (el.href.indexOf("q=")!=-1) {
29.                 el.href=el.href.replace(new RegExp("q=[^&$]*"), "q="+qe);
30.             } else {
31.                 el.href+="&q="+qe;
32.             }
33.         }
34.         return 1;
35.     }
36.     &nbsp;
37.     <font size="-1"><a href="/webhp?hl=en&tab=iw" onclick="return
qs(this);">Web</a>
38.     &nbsp;&nbsp;&nbsp;
39.     <a href="/imghp?hl=en&tab=wi" onclick="return qs(this);">Images</a>
40.     &nbsp;&nbsp;&nbsp;
41.     <a href="http://video.google.com/?hl=en&tab=wv" onclick="return
qs(this);">Video</a>
42.     &nbsp;&nbsp;&nbsp;
43.     <a href="/nwshp?hl=en&tab=wn" onclick="return qs(this);">News</a>
44.     &nbsp;&nbsp;&nbsp;
45.     <a href="http://maps.google.com/maphp?hl=en&tab=wl" onclick="return
qs(this);">Maps</a>
46.     &nbsp;&nbsp;&nbsp;
47.     <b>more &raquo;</b></font>
48.
49. <table cellpadding="4" cellspacing="1" border="0" width="100%">
50. <form name="gs" method="get" action="/search">
51. <tr>

```

```

52. <td><font size="-1"><input value="" name="output" type="hidden"><input
value="" name="sitesearch" type="hidden"><input name="hl" type="hidden"
value="en"><input maxlength="2048" value="" name="q" type="text" size="40">
<input value="Search the Web" name="submit" type="submit"></font></td>
53. </tr>
54. </form>
55. </table>
56. <br>
57. </td>
58. </tr>
59. <tr>
60. <td id="hc-text" colspan="2">
61. <table id="header" width="100%" cellpadding="0" cellspacing="0"
border="0">
62. <tr>
63. <td>
64. <table width="100%" border="0" cellpadding="2" cellspacing="0">
65. <tr>
66. <td id="headerText"><font size="3"><b>More Google
Products</b></font></td>
67. </tr>
68. </table>
69. </td>
70. </tr>
71. </table>
72. <br>
73. </td>
74. </tr>
75. </table>
76. <table width="100%" border="0" cellpadding="2" cellspacing="0">
77. <tr>
78. <td id="content" valign="top">
79. <table id="mc" cellpadding="0" cellspacing="0">
80. <tr>
81. <td id="mc-left" valign="top">
82. <div class="product-group">
83. <h3>Search</h3>
84.
85. <table class="product" cellpadding="4" cellspacing="0">
86. <tr>
87. <td style="padding-right:10px;" valign="top"><a href="/alerts?hl=en"
onclick="javascript:urchinTracker('/intl/en/options/outbound/alerts');"></a></td><td><a
onclick="javascript:urchinTracker('/intl/en/options/outbound/alerts');"
href="/alerts?hl=en">Alerts</a>
88. <br>Get email updates on the topics of your choice</td>
89. </tr>
90. </table>
91.
92. ....
93.
94. </div>
95. <div class="product-group">
96. <h3>Make your computer work better</h3>
97.
98. <table class="product" cellpadding="4" cellspacing="0">

```

```

99. <tr>
100. <td style="padding-right:10px;" valign="top"><a
href="http://pack.google.com/?hl=en&brand=GPMD&utm_source=en_US-et-
more&utm_medium=et&utm_campaign=en_US"
onclick="javascript:urchinTracker('/intl/en/options/outbound/pack');"></a></td><td><a
onclick="javascript:urchinTracker('/intl/en/options/outbound/pack');"
href="http://pack.google.com/?hl=en&brand=GPMD&utm_source=en_US-et-
more&utm_medium=et&utm_campaign=en_US">Pack</a>
101. <br>A free collection of essential software</td>
102. </tr>
103. </table>
104.
105. </div>
106.
107. </td>
108. </tr>
109. </table>
110. </td>
111. </tr>
112. </table>
113.
114. <div id="footer">
115.   &copy;2009 Google - <a href="/webhp?hl=en"
onclick="javascript:urchinTracker('/intl/en/options/outbound/footer-
home');">Google Home</a> - <a href="/ads/"
onclick="urchinTracker('/intl/en/options/outbound/footer-ads');">Advertising
Programs </a> - <a href="/services/"
onclick="javascript:urchinTracker('/intl/en/options/outbound/footer-
services');">Business Solutions</a> - <a href="/about.html"
onclick="javascript:urchinTracker('/intl/en/options/outbound/footer-
about');">About Google</a> - <a href="http://www.google.com/support?hl=en"
onclick="javascript:urchinTracker('/intl/en/options/outbound/footer-
help');">Help Center</a>
116. </div>
117. </div>
118. <script type="text/javascript">
119.   urchinTracker();
120. </script>
121. </body>
122. </html>

```

For the questions below, if a link is clicked, please provide the **complete URL**, which produces the resulting page.

Q1. [2 pts] What character set is used in the file?

A1: UTF-8

Q2. [2 pts] How many cascading style sheets are used in this file, and what are their names?

A2: 4, google.css, rc.css, styles.css, options.css

Q3. [2 pts] Where is the JavaScript function `urchinTracker()`, called on line 119, located?

A3: <https://ssl.google-analytics.com/urchin.js>

Q4. [2 pts] Explain the purpose of line 26, which is repeated here:

```
if (window.RegExp && window.encodeURIComponent) {
```

A4: evaluates to **TRUE** if the browser supports the **RegExp** and **encodeURIComponent** JavaScript APIs

Q5. [2 pts] Consider line 27, which is repeated here. On what line or lines, are the object named “gs” and “q” located? Please **CIRCLE** their location in the source code.

```
var qe=encodeURIComponent (document.gs.q.value);
```

A5: on lines 50 and 52

```
50. <form name="gs" method="get" action="/search">
51. <tr>
52. <td><font size="-1"><input value="" name="output"
type="hidden"><input value="" name="sitesearch"
type="hidden"><input name="hl" type="hidden" value="en"><input
maxlength="2048" value="" name="q" type="text" size="40"> <input
value="Search the Web" name="submit" type="submit"></font></td>
```

Q6. [2 pts] Explain the purpose of line 26, which is repeated here:

```
if (el.href.indexOf ("q=") !=-1) {
```

A6: Checks for the presence of the string “q=” in the HREF, since `indexOf` returns the position of the first occurrence of the string “q=”, or -1 if the string is not present.

Q7. [2 pts] On what lines is the JavaScript function named “qs” called?

A7: on lines 37, 39, 41, 43, and 45

Q8. [2 pts] What is the resulting URL if the search box is empty and the link labeled “Search the Web” is clicked?

A8: <http://www.google.com/search?output=&sitesearch=&hl=en&q=&submit=Search+the+Web>

The following two questions are general HTML/CSS questions.

Q9. [2 pts] List the 3 ways we can use to include CSS in an HTML file.

A9: 3 ways: 1) inline with “style” attribute; 2) in the HEAD with the STYLE element / tag, and 3) with a LINK included external .CSS file.

Q10. [2 pts] list the three (3) ways we can use to include JavaScript in an HTML file using the SCRIPT tag.

A10: 3 ways: 1) inline using the SCRIPT tag in the HEAD, 2) inline using SCRIPT tag in the BODY, and 3) using the SCRIPT tag with SRC attribute referring to an external JavaScript file.

JAVASCRIPT REGULAR EXPRESSIONS QUESTIONS [10 PTS]

JavaScript 1.5 introduced a new notation for Regular Expressions using the the ?= notation.

Q1 [8 pts]. Please write a regular expression that restricts a password to at least one number, one lowercase and one uppercase letter and at least 8 characters that are letters, numbers or the underscore.

A1. `/^(?=.*\d)(?=.*[a-z])(?=.*[A-Z])\w{8,}$/;`

(last semicolon not required)

Note: there is NO partial credit provided for this question.

Q2 [2 pts]. What additional attributes are introduced in HTML5 for the form input fields to make it easier to demand and match the input?

A2. REQUIRED and PATTERN

JAVASCRIPT QUESTIONS [20 POINTS]] [OK !!!!]

Consider the following JSON file whose name is airbus.json:

```
{
  "title": "Airbus Aircraft Families",
  "aircraft": [
    {
      "Airbus": "A380",
      "Aircraft": "A380",
      "seats": "555",
      "Range": "15000km",
      "Wingspan": "79.80m",
    }
  ]
}
```

```

        "Length": "73.00m",
        "Height": "24.10m",
        "Image": "http://csci571.com/examples/dom/aircraft/A380.jpg"
    },
    {
        "Airbus": "A330/A340",
        "Aircraft": "A340-600",
        "seats": "380",
        "Range": "14600km",
        "Wingspan": "63.45m",
        "Length": "75.30m",
        "Height": "17.30m",
        "Image": "http://csci571.com/examples/dom/aircraft/A340.jpg"
    },
    {
        "Airbus": "A300/A310",
        "Aircraft": "A300-600",
        "seats": "266",
        "Range": "7500km",
        "Wingspan": "44.84m",
        "Length": "54.10m",
        "Height": "16.54m",
        "Image": "http://csci571.com/examples/dom/aircraft/A300.jpg"
    },
    {
        "Airbus": "A320",
        "Aircraft": "A321",
        "seats": "185",
        "Range": "5600km",
        "Wingspan": "34.09m",
        "Length": "44.51m",
        "Height": "11.76m",
        "Image": "http://csci571.com/examples/dom/aircraft/A321.jpg"
    }
]
}

```

Complete the JavaScript code snippet below that produces the following output. The JavaScript code should be dynamic and work with similar JSON files which follow the same layout.

Completing the code is worth 10 points.

```

A380
A330/A340
A300/A310
A320

```

One of many solutions:

```

<html>
<head><title>Airbus</title></head>

```

```

<body>

<script type="text/javascript">
var xmlhttp = new XMLHttpRequest();
xmlhttp.open("GET","airbus.json",false);
xmlhttp.send();
jsonObj= JSON.parse(xmlhttp.responseText);

planes=jsonObj.aircraft;

for(i=0;i<planes.length;i++)
{
    planeNodeList=planes[i];
    var aircraft_keys = Object.keys(planeNodeList);

    for (j=0;j<aircraft_keys.length;j++)
    {
        prop = aircraft_keys[j];
        if (aircraft_keys[j]=="Airbus")
        {
            document.write(planeNodeList[prop] + "<BR />");
        }
    }
}
</script>
</body>
</html>

```

The following questions are worth 2 points each.

Q1: Which of the following JavaScript statements is syntactically correct?

- ☐ var multipleValues = [];
- ☐ var multipleValues = new Array();
- ☐ var multipleValues = Array();
- ☐ var multipleValues = Array(5);
- ☒ All of the above

Q2: Since arrays in JavaScript are objects what do they have besides properties?

A2: methods

Q3: What are reverse(), join() and sort() in JavaScript?

A3: Methods of the array object

Q4: Consider the following JavaScript statement:

```
var myLinks = getElementsByTagName ("a");
```

What is the data type of the result?

A4: an array

Q5: Consider the following JavaScript statements:

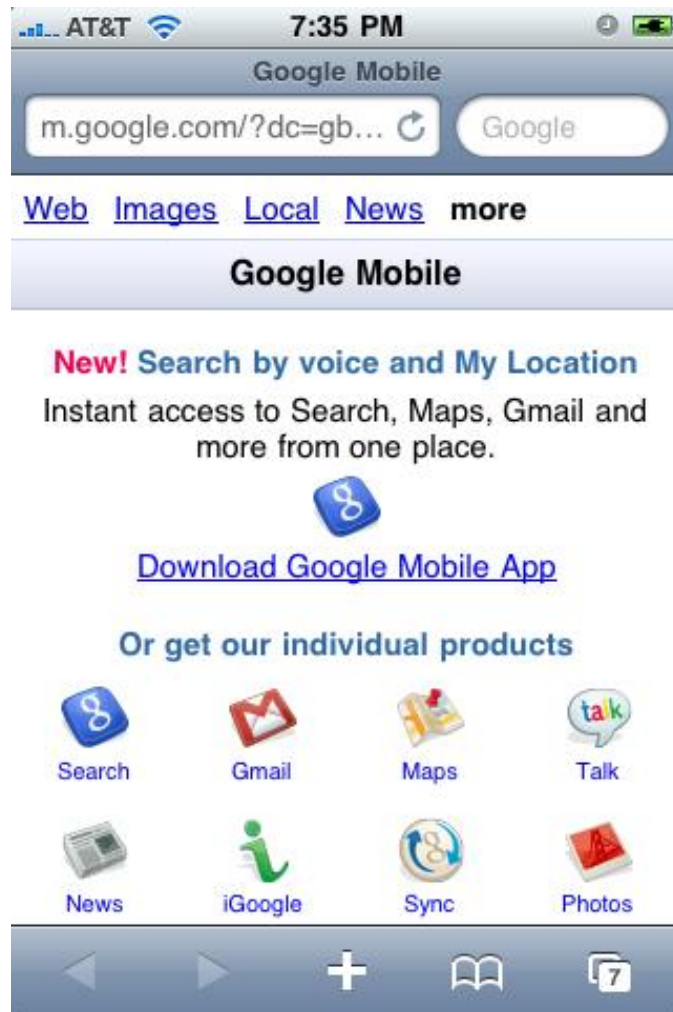
```
var foo = 5;  
var bar = "5";  
console.log(foo + bar);  
var bar = "b";  
console.log(foo * bar);
```

A5: What will be output to the console?

55

NaN

HTTP QUESTIONS [20 POINTS]



The picture above is a snapshot of an iPhone, accessing Google Mobile. Below, are the HTTP headers between the iPhone and Google. The transactions have been edited, leaving only a few of the transaction transmitting images.

Transaction 1:

http://m.google.com/?dc=gbackstop

```
GET /?dc=gbackstop HTTP/1.1
Host: m.google.com
User-Agent: Mozilla/5.0 (iPhone; U; CPU like Mac OS X; en) AppleWebKit/420.1
(KHTML, like Gecko) Version/3.0 Mobile/3B48b Safari/419.3
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 300
Connection: keep-alive
Referer: http://www.google.com/mobile/products/search.html
Cache-Control: max-age=0
```

HTTP/1.x 200 OK
Set-Cookie: __utzm=30314979.1254714059.1.1.utmcsr%3Dgoogle.com%7Cutmccn%3D%28referral%29%7Cutmcmd%3Dreferral%7Cutmcct%3D%2Fmobile%2Fproducts%2Fsearch.html;
Domain=m.google.com; Expires=Fri, 18-Sep-2009 19:29:48 GMT; Path=/; HttpOnly
Set-Cookie: __utma=30314979.1527468456.1254714059.1254714059.1254714059.1;
Domain=m.google.com; Expires=Sat, 19-Sep-2009 11:59:08 GMT; Path=/; HttpOnly
Set-Cookie: __utmc=30314979; Domain=m.google.com; Path=/; HttpOnly
Set-Cookie: __utmb=30314979.1.10.1254714059; Domain=m.google.com;
Expires=Mon, 05-Oct-2009 04:10:57 GMT; Path=/; HttpOnly
Content-Type: text/html; charset=UTF-8
Content-Encoding: gzip
Date: Mon, 05 Oct 2009 03:40:58 GMT
Expires: Mon, 05 Oct 2009 03:40:58 GMT
Cache-Control: private, max-age=0
X-Content-Type-Options: nosniff
X-XSS-Protection: 0
X-Frame-Options: SAMEORIGIN
Content-Length: 7674
Server: GFE/2.0

Transaction 2:

http://www.google-analytics.com/__utm.gif?utmwv=4.5.6&utmhn=m.google.com&utmcs=-&utmsr=216x384&utmssc=undefined-bit&utmml=en&utmje=0&utmfl=-&utmcn=1&utmhid=27594224&utmr=http%3A%2F%2Fwww.google.com%2Fmobile%2Fproducts%2Fsearch.html&utmp=%2F%3Fdc%3Dgbackstop&utmcc=__utma%3D30314979.1527468456.1254714059.1254714059.1254714059.1%3B%2B__utzm%3D30314979.1254714059.1.1.utmcsr%3Dgoogle.com%7Cutmccn%3D%28referral%29%7Cutmcmd%3Dreferral%7Cutmcct%3D%2Fmobile%2Fproducts%2Fsearch.html%3B

GET /__utm.gif?utmwv=4.5.6&utmhn=m.google.com&utmcs=-&utmsr=216x384&utmssc=undefined-bit&utmml=en&utmje=0&utmfl=-&utmcn=1&utmhid=27594224&utmr=http%3A%2F%2Fwww.google.com%2Fmobile%2Fproducts%2Fsearch.html&utmp=%2F%3Fdc%3Dgbackstop&utmcc=__utma%3D30314979.1527468456.1254714059.1254714059.1254714059.1%3B%2B__utzm%3D30314979.1254714059.1.1.utmcsr%3Dgoogle.com%7Cutmccn%3D%28referral%29%7Cutmcmd%3Dreferral%7Cutmcct%3D%2Fmobile%2Fproducts%2Fsearch.html%3B
HTTP/1.1

Host: www.google-analytics.com
User-Agent: Mozilla/5.0 (iPhone; U; CPU like Mac OS X; en) AppleWebKit/420.1 (KHTML, like Gecko) Version/3.0 Mobile/3B48b Safari/419.3
Accept: image/png,image/*;q=0.8,*/*;q=0.5
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 300
Connection: keep-alive
Referer: http://m.google.com/?dc=gbackstop

HTTP/1.x 200 OK
Content-Length: 35
Date: Sun, 19 Jul 2009 17:30:00 GMT
Pragma: no-cache
Expires: Wed, 05 Jul 2000 21:53:59 GMT
Last-Modified: Wed, 21 Jan 2004 19:50:30 GMT

Content-Type: image/gif
Server: Golfe
Cache-Control: private, no-cache, no-cache=Set-Cookie, proxy-revalidate
X-XSS-Protection: 0

Transaction 3:

http://www.gstatic.com/mgc/images/icons/32x32/googlemobileapp.png

GET /mgc/images/icons/32x32/googlemobileapp.png HTTP/1.1
Host: www.gstatic.com
User-Agent: Mozilla/5.0 (iPhone; U; CPU like Mac OS X; en) AppleWebKit/420.1 (KHTML, like Gecko) Version/3.0 Mobile/3B48b Safari/419.3
Accept: image/png,image/*;q=0.8,*/*;q=0.5
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 300
Connection: keep-alive
Referer: http://m.google.com/?dc=gbackstop
If-Modified-Since: Thu, 09 Apr 2009 09:38:48 GMT
Cache-Control: max-age=0

HTTP/1.x 304 Not Modified
Content-Type: text/html; charset=UTF-8
X-Content-Type-Options: nosniff
Date: Mon, 05 Oct 2009 03:41:00 GMT
Server: sffe
X-XSS-Protection: 0

Transaction 4:

http://www.gstatic.com/mgc/images/icons/32x32/mail.png

GET /mgc/images/icons/32x32/mail.png HTTP/1.1
Host: www.gstatic.com
User-Agent: Mozilla/5.0 (iPhone; U; CPU like Mac OS X; en) AppleWebKit/420.1 (KHTML, like Gecko) Version/3.0 Mobile/3B48b Safari/419.3
Accept: image/png,image/*;q=0.8,*/*;q=0.5
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 300
Connection: keep-alive
Referer: http://m.google.com/?dc=gbackstop
If-Modified-Since: Wed, 15 Apr 2009 15:38:29 GMT
Cache-Control: max-age=0

HTTP/1.x 304 Not Modified
Content-Type: text/html; charset=UTF-8
X-Content-Type-Options: nosniff
Date: Mon, 05 Oct 2009 03:41:00 GMT
Server: sffe
X-XSS-Protection: 0

[more transactions requesting images]

Transaction 5:

http://www.gstatic.com/mgc/images/icons/change_language.gif

GET /mgc/images/icons/change_language.gif HTTP/1.1
Host: www.gstatic.com
User-Agent: Mozilla/5.0 (iPhone; U; CPU like Mac OS X; en) AppleWebKit/420.1 (KHTML, like Gecko) Version/3.0 Mobile/3B48b Safari/419.3
Accept: image/png,image/*;q=0.8,*/*;q=0.5
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 300
Connection: keep-alive
Referer: http://m.google.com/?dc=gbackstop
If-Modified-Since: Tue, 28 Apr 2009 16:38:44 GMT
Cache-Control: max-age=0

HTTP/1.x 304 Not Modified
Content-Type: text/html; charset=UTF-8
X-Content-Type-Options: nosniff
Date: Mon, 05 Oct 2009 03:41:00 GMT
Server: sffe
X-XSS-Protection: 0

Transaction 6:

http://toolbarqueries.google.com/search?sourceid=navclient-ff&features=Rank&client=navclient-auto-ff&googleip=0;null;105&ch=80fa3a956&q=info:http%3A%2F%2Fm.google.com%2F%3Fdc%3Dgbackstop

GET /search?sourceid=navclient-ff&features=Rank&client=navclient-auto-ff&googleip=0;null;105&ch=80fa3a956&q=info:http%3A%2F%2Fm.google.com%2F%3Fdc%3Dgbackstop HTTP/1.1
Host: toolbarqueries.google.com
User-Agent: Mozilla/5.0 (iPhone; U; CPU like Mac OS X; en) AppleWebKit/420.1 (KHTML, like Gecko) Version/3.0 Mobile/3B48b Safari/419.3 GoogleToolbarFF 3.1.20081127
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 300
Connection: keep-alive

HTTP/1.x 200 OK
Cache-Control: private, max-age=0
Date: Mon, 05 Oct 2009 03:41:01 GMT
Expires: -1
Content-Type: text/html; charset=ISO-8859-1
Set-Cookie: PREF=ID=e3dafdf88e959327:TM=1254714061:LM=1254714061:S=mD55816DcUOFgxFy; expires=Wed, 05-Oct-2011 03:41:01 GMT; path=/; domain=.google.com
Server: gws
Transfer-Encoding: chunked
Content-Encoding: gzip
X-XSS-Protection: 0

Transaction 7:

http://www.google.com/csi?v=3&s=mog&action=default_load_66&e=0&mog_d=0&mog_ui=4&rt=nav.320,foot.358,ol.2051,prt.2051

GET

/csi?v=3&s=mog&action=default_load_66&e=0&mog_d=0&mog_ui=4&rt=nav.320,foot.358,ol.2051,prt.2051 HTTP/1.1

Host: www.google.com

User-Agent: Mozilla/5.0 (iPhone; U; CPU like Mac OS X; en) AppleWebKit/420.1 (KHTML, like Gecko) Version/3.0 Mobile/3B48b Safari/419.3

Accept: image/png,image/*;q=0.8,*/*;q=0.5

Accept-Language: en-us,en;q=0.5

Accept-Encoding: gzip,deflate

Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7

Keep-Alive: 300

Connection: keep-alive

Referer: http://m.google.com/?dc=gbackstop

Cookie:

PREF=ID=e3dafdf88e959327:TM=1254714061:LM=1254714061:S=mD55816DcUOFgxFy

HTTP/1.x 204 No Content

Content-Length: 0

Date: Wed, 21 Jan 2004 19:51:30 GMT

Pragma: no-cache

Cache-Control: private, no-cache

Expires: Wed, 17 Sep 1975 21:32:10 GMT

Content-Type: text/html

Server: Golfe

X-XSS-Protection: 0

X-Cache: MISS from .

Via: 1.0 .:80 (squid)

Connection: keep-alive

Each of the following questions is worth 2 points.

[2 pts] How many web servers are involved in these HTTP transactions and what are their names?

Answer: 4 servers: GFE, Golfe, sffe, gws

[2 pts] What product is used to analyze transaction logs?

Answer: Google Analytics.

[2 pts] What is the name of the browser used in these transactions?

Answer: Safari

[2 pts] What character set is used in these transactions?

Answer: UTF-8 and ISO-8859-1

[2 pts] In the last transaction the server responds with a “204 No Content”. What does that mean?

Answer: the server is returning an “empty” body (Content-type: text/html, Content-length: 0)

[2 pts] Are any transactions returning compressed data?

Answer: Yes, 1 and 6

[2 pts] Some transactions are returning “304 Not Modified”. What does that mean?

Answer: the browser cached the PNG images and no image is transmitted.

[2 pts] Besides cookies, where is “analytics” information stored into?

Answer: in a GIF image named __utm.gif

[2 pts] What MIME media type(s) are supported by the iPhone browser?

Answer: any image media type [image/*]

[2 pts] Which of these transactions use persistent connections?

Answer: All

PHP QUESTIONS [20 POINTS]

Each question is worth 2 points.

Q1: Which of the following is true in PHP?

A1:

☐ PHP is strictly typed

☐ Function names are case-sensitive

☐ Identifiers can contain spaces.

☒ Local variables are restricted to a function or class

☐ Variable names begin with a dollar sign (\$) followed by underscore (_)

☐ ALL OF THE ABOVE

☐ NONE OF THE ABOVE

Q2: What is the meaning of the PHP_SELF variable?

A2: A variable that returns the current script being executed, including its name and path

Q3: Consider the PHP code snippet:

```
<?php
$foo = 25;                // Numerical variable
$bar = "Hello";           // String variable
```

```
$bar = ($foo * 7) + $bar;      //valid or invalid expression?  
?>
```

Is the expression on the third line of the script valid or invalid?

A3: valid – OR – gives a Warning

Q4: Consider this PHP code snippet:

```
<?php  
$foo = 25;  
$bar = "Hello";      // String variable  
  
echo $foo,$bar;  
echo "5x5=", $foo;
```

What is the output produced? Indicate any space with an underscore _

A4:

25Hello (no spaces)

5x5=25 (no spaces)

Q5: Assume a form contains one textbox named “myName”, and the form is submitted using the GET method. How would a PHP script access the form data?

A5: \$_GET['myName']

Q6: What are 3 ways to get data from users on the Web?

A6:

URLs / Links

Forms

Cookies

Sessions

Q7: Where does PHP put all of the query parameters that were sent with the URL?

A7: PHP puts them into an associative array. That array is what is called a Super global variable.

Q8: What is ONE example of a PHP Super global variable?

A8: any of \$_GET, \$_POST, \$_COOKIE, \$_SESSION

Q9: What is the difference between PHP urlencode and rawurlencode?

A9: in urlencode, spaces become "+", in rawurlencode, spaces become "%20"

Q10: Which parts of the URL (path & query string) would you use urlencode and which rawurlencode?

A10: urlencode for query string, rawurlencode for path (directory and/or filename)

CSS QUESTIONS [10 POINTS]

Below are lines extracted from the CSS style sheet of google.com For each line answer the question. Each question is worth 2 points.

Q1. Give an HTML example usage of the declaration below:

```
.gb_N .gb_M {  
    background-image: none !important;  
    position: relative  
}
```

A1.

```
<div class=".gb_N">  
    <div class="gb_M">  
        . . .  
    <div>  
</div>
```

Q2. What does this declaration do?

```
.gb_5, .gb_6 {  
    left: 37px;  
    visibility: hidden  
}
```

A2.

Creates two generic classes, gb_5 and gb_6, that can be used with any element and change the left edge of the element to 37 pixels and make the element hidden.

Q3. Give two (2) HTML examples of usage of the declaration from Q2:

A3.

```
<div class=".gb_5">
    . . . .
</div>

<div class=".gb_6">
    . . . .
</div>
```

Q4. Write in the CSS to create a “class” named gb3 that changes the CSS properties position to relative, top to 27 pixels, and visibility to hidden.

A4.

```
.gb_3 {
    position: relative;
    top: 27px;
    visibility: hidden
}
```

Q5. Give an HTML example usage of the declaration below:

```
.gb_T a {
    border: 1px solid #e5e5e5;
    -webkit-box-shadow: 0 1px 2px rgba(0, 0, 0, 0.1);
    box-shadow: 0 1px 2px rgba(0, 0, 0, 0.1);
    background: #fff;
    cursor: -moz-grabbing;
    cursor: -webkit-grabbing;
    margin: -1px;
    visibility: visible;
    z-index: 1001
}
```

A5.

```
<div class="gb_T">  
  <a href=http://www.example.com>example </a>  
</div>
```