V516 Homework 5 Sai Su

Part_1:

Use the specified DOS Commands (Start Menu/Run/Cmd) to answer the associated questions. Do this exercise from a campus connected computer (or a VPN connection to the campus network). Use screen capture to record results. Annotate screen capture results with explanation and answers to questions. Convert results document to PDF and publish on your website.

1. Command= tracert host-name

   Question(s):  How many routers are between you and bloomington.in.gov?
   How many hops to www.simplyesl.org?

   For each trace, state 3 networks that the connection used from sender to receiver.

   Networks that the connection used from sender to receiver:
   ae-13.0.br2.blde.net.uits.iu.edu
   et-3-0-0.1.rtr.ictc.indiana.gigapop.net
   209.77.244.66.static.bluemarble.net

There are 7 routers between my computer and Bloomington.in.gov.
There are 14 hops to [www.simplycsl.org](http://www.simplycsl.org)

Networks that the connection used from sender to receiver:
- ae-13.0.br2.bldc.net.ui.ts.iu.edu
- ae14.cr2.ord2.us.zip.zayo.com
- ip-208-113-156-4.dreamhost.com

2. Command= ipconfig /all

Question(s):
- Computers name?
- Computers Internet Protocol (IP) address?
- Is DHCP enabled?
- What is the address of the primary DNS?
- What is the address of your “Gateway”?

Computer name: iulb-pv150-09
Computers Internet Protocol (IP) address: 156.56.65.99
DHCP enabled? YES
Primary DNS address: 10.79.1.1, 10.234.220.20, 10.79.1.2
“Gateway” address: fe80::18e8:2:1019:1/3
156.56.65.1
3. Command= nslookup

Questions: What is the IP number for Oncourse.iu.edu?  
What is the IP number for mypage.iu.edu?
What is the IP address for the Mercury server?

IP number for Oncourse.iu.edu: 129.79.211.42

IP number for mypage.iu.edu: 129.79.78.36, 129.79.78.37

IP address for the Mercury server: 129.79.78.18

4. Command= ping

Questions: Ping Oncourse. What is the average response time?  
Ping Purdue (purdue.edu). What is the response time?  
Ping yourself (e.g. ping your-computer-name or IP addr);  
Response time?

Average response time for Oncourse: =0ms

Average response time for Purdue: =3ms
Average response time for my computer: =0ms

5. Command= netstat –e

  Question: How many broadcast (non-unicast) frames have you received?

  Number of broadcast (non-unicast) frames received: 768160

  Command= netstat –s

  Question: Have any datagrams been forwarded?

  Yes, there are datagrams being forwarded.
<table>
<thead>
<tr>
<th>Statistics Type</th>
<th>Packets Received</th>
<th>Received Header Errors</th>
<th>Received Address Errors</th>
<th>Datagrams Forwarded</th>
<th>Unknown Protocols Received</th>
<th>Received Packets Discarded</th>
<th>Received Packets Delivered</th>
<th>Output Requests</th>
<th>Routing Discards</th>
<th>Discarded Output Packets</th>
<th>Output Packet No Route</th>
<th>Reassembly Required</th>
<th>Reassembly Successful</th>
<th>Reassembly Failures</th>
<th>Datagrams Successfully Fragmented</th>
<th>Datagrams Failing Fragmentation</th>
<th>Fragments Created</th>
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</table>
Command= netstat –n

Question: How many TCP connections exist. Open an FTP connection (use WINSCP or SecureFTP) to Mercury and re-do netstat –n. Does the new connection show up?
There are 9 TCP connections exist.

After opening an FTP connection (use WINSCP or SecureFTP) to Mercury and re-do netstat –n, new connections show up.

Part_2: Submit a copy of your Excel workbook (with 3 tabs) to Canvas.

Problem 1: Excel Function to Practice: “If” statement, nested “IFs”

The Flybynight Airline flight from Seattle to New York has a capacity of 250 people. 270 tickets have been sold for the flight at a price of $300 per ticket. Tickets are non-refundable. The fixed cost of flying a passenger (mostly food costs and fuel costs) is $30 per passenger. If more than 250 ticket holders show up for the flight, then the flight is overbooked and Flybynight must pay overbooking compensation of $350 per person to each overbooked passenger. Develop a spreadsheet that computes Flybynight’s profit based on the number of ticket holders who show up for the flight.

The spreadsheet is to have “named” variables (use Formulas/Define Name) for the following (you can add more if you need):
• Flight Capacity
• Number Ticket Holders Showing Up
• Fixed cost of flying a passenger
• Tickets Sold
• Overbook cost per passenger
• Revenue In
• Cost for flying all passengers
• Cost for overbooking
• Profit

Use of “IF” is required!! (hint: Use the IF statement to calculate Profit, testing the condition “Number passengers showing up <= capacity”)

Problem_2: Excel Function to practice: Nested IF and vlookup

Add a new TAB to your Excel Workbook, and label it “Tax Penalty”.

Late fees for private property tax are determined by date (degree of lateness) and as a percent of the tax revenue owed. Using the following data, create an application (in Excel) that will accept a DATE of tax submission as input, and will output the proper late fee penalty. Your spreadsheet is to have a cell labeled: Please Enter a Date. A second cell is to be labeled: Tax Penalty. When the user enters a date, the formula in the Tax Penalty cell will determine and display the proper penalty.

<table>
<thead>
<tr>
<th>When Property Tax is Submitted</th>
<th>Penalty</th>
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<tbody>
<tr>
<td>Jan.1-March 15</td>
<td>0</td>
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<tr>
<td>March 16-June 30</td>
<td>5%</td>
</tr>
<tr>
<td>July 1-Sept 30</td>
<td>10%</td>
</tr>
<tr>
<td>Oct 1-Dec. 31</td>
<td>15%</td>
</tr>
</tbody>
</table>
**Problem_3: Excel Solver**

Add another tab to your Excel Workbook, label it “Happy Workforce”

Your Health-Care Online Exchange is having some problems, so you have hired telephone consultants to enroll people in health insurance via telephone. You have determined (based on load and demand) that you need the following number of people each day or the week:

M=17  Tu=13  Wed=15  Th=17  F=9  Sa=9  Su=12
Each consultant works 5 consecutive days, then 2 days off. You have hired 22 consultants. How many people should start their 5 day workweek on each day of the week (like 5 start M, 6 start Tu, 10 start Wed..) in order to maximize the number of weekend days off?