1. Please explain how and why you would use Ping and Tracert.

I have used the command 'ping' by entering 'ping IP address' into a terminal to see networking traffic on a software called 'Wireshark'. I have read that 'ping' can be used for checking errors for networks. I have also read that 'ping' can be used for communication verification between computers or devices. The command appears to operate by sending a message and waiting for a response.
I have used the command 'tracers' by entering 'traceroute blogs.getcertifiedgetahead.com' into a terminal. The command appears to trace a route between your computer and a server. I have read that the command can be used to figure out why a website uploads slowly.

Notes:
- You can use tracers to track packet flow through a network and if an extra router has been added to your network, tracers will identify it. You can use ping to check connectivity with a remote system, but it doesn't show the route.
- CompTIA Security+ Get Certified Get Ahead

2. What are the top 3 Cloud Computing products in the market place today? Research and compare.

Apple - iCloud storage:
- Description: iCloud is a cloud storage and cloud computing service from Apple Inc.

Apple iCloud
-- 2TB for $9.99 a month.
-- 200GB for $2.99 a month.
-- 50GB for $0.99 a month.

Microsoft - OneDrive:
- Description: Microsoft OneDrive is a file hosting service and synchronization service operated by Microsoft as part of its web version of Office.

Office 365 Home
-- Premium OneDrive Features $99.99/year
-- Go Premium
-- Try for free
-- Or buy for $9.99/mo
-- 6 TB total (1000 GB each for 6 users)

Office 365 Personal
-- Premium OneDrive Features $69.99/year
-- Go Premium
-- Or buy for $6.99/mo
-- 1 TB (1000 GB)

OneDrive 100 GB
-- Storage only
-- Buy for $1.99/mo
-- 100 GB

OneDrive Basic 5 GB
-- Storage only
-- Free
-- Sign up
-- 5 GB

Google - Google Drive:
- Description: Google Drive is a file storage and synchronization service developed by Google.

Google Drive personal plans:
-- $1.99 per month for 100GB.
-- $9.99 per month for 1TB.
-- $99.99 per month for 10TB.
-- $199.99 per month for 20TB.
-- $299.99 per month for 30TB.

Cloud Computing products	Plan One	Plan Two	Plan Three	Plan Four	Plan Five
Apple - iCloud storage	-- 2TB for $9.99 a month.	-- 200GB for $2.99 a month.	-- 50GB for $0.99 a month.		
Microsoft - OneDrive	Office 365 Home: -- Premium OneDrive Features $99.99/year -- Go Premium -- Try for free -- Or buy for $9.99/mo -- 6 TB total (1000 GB each for 6 users)	Office 365 Personal: -- Premium OneDrive Features $69.99/year -- Go Premium -- Or buy for $6.99/mo -- 1 TB (1000 GB)	OneDrive 100 GB: -- Storage only -- Buy for $1.99/mo -- 100 GB	OneDrive Basic 5 GB: -- Storage only -- Free -- Sign up -- 5 GB	
Google - Google Drive	-- $299.99 per month for 30TB.	-- $199.99 per month for 20TB.	-- $99.99 per month for 10TB.	-- $9.99 per month for 1TB.	-- $1.99 per month for 100GB.

- https://en.wikipedia.org/wiki/ICloud
- Google Search Input: Apple iCloud storage comparison
- https://en.wikipedia.org/wiki/OneDrive
- Google Search Input: Microsoft OneDrive price comparison
- https://onedrive.live.com/about/en-US/plans/
- https://en.wikipedia.org/wiki/Google_Drive
- Google Search Input: Google Drive price comparison

Notes:
- Another entry into cloud computing is Security as a Service. It includes any services provided via the cloud that provide security services, and is commonly viewed as a subset of the Software as a Service (SaaS) model.
- Cloud computing refers to accessing computing resources via a
different location than your local computer. In most scenarios, you're accessing these resources through the Internet.
- As an example, if you use web-based email such as Gmail, you're using cloud computing. More specifically, the web-based mail is a Software as a Service cloud computing service.
- Infrastructure as a Service (IaaS) is a cloud computing option where the vendor provides access to a computer, but customers must manage the system, including keeping it up to date with current patches...An IaaS solution can be public, private, or a hybrid solution.
- Cloud computing provides an organization with additional
resources. Most cloud services are provided via the Internet or a hosting provider. On-premise clouds are owned and maintained by an organization.
- CompTIA Security+ Get Certified Get Ahead

3. Terminal Commands and Output:

Terminal Input:
$ ping -?

```
ping: invalid option -- ?
usage: ping [-AaDdfnoQqRrv] [-c count] [-G sweepmaxsize]
            [-g sweepminsize] [-h sweepincrsize] [-i wait]
            [-l preload] [-M mask | time] [-m ttl] [-p pattern]
            [-S src_addr] [-s packetsize] [-t timeout][-W waittime]
            [-z tos] host
       ping [-AaDdfLnoQqRrv] [-c count] [-I iface] [-i wait]
            [-l preload] [-M mask | time] [-m ttl] [-p pattern] [-S src_addr]
            [-s packetsize] [-T ttl] [-t timeout] [-W waittime]
            [-z tos] mcast-group
Apple specific options (to be specified before mcast-group or host like all options)
            -b boundif           # bind the socket to the interface
            -k traffic_class     # set traffic class socket option
            -K net_service_type  # set traffic class socket options
            -apple-connect       # call connect(2) in the socket
            -apple-time          # display current time
```

Terminal Input:
$ traceroute blogs.getcertifiedgetahead.com

```
 1  10.12.255.250 (10.12.255.250)  4.056 ms  3.006 ms  2.077 ms
 2  204.102.74.254 (204.102.74.254)  3.257 ms  2.781 ms  3.509 ms
 3  sfo-agg1--sfpl-lib-2.cenic.net (198.188.255.8)  3.086 ms  3.024 ms  3.140 ms
 4  dc-sfo-agg4--sfpl-10ge.cenic.net (137.164.3.209)  3.375 ms  3.321 ms  2.889 ms
 5  dc-svl-agg8--sfo-agg4-100g.cenic.net (137.164.11.44)  5.350 ms  20.817 ms  5.322 ms
 6  ae-6.0.rtsw.sunn.net.internet2.edu (198.71.47.74)  4.422 ms  4.103 ms  4.215 ms
 7  162.252.69.238 (162.252.69.238)  5.170 ms  4.602 ms  5.294 ms
 8  be-12544-cr01.9greatoaks.ca.ibone.comcast.net (68.86.87.149)  6.325 ms  7.698 ms  6.830 ms
 9  be-11025-cr02.sunnyvale.ca.ibone.comcast.net (68.86.87.157)  7.548 ms  5.853 ms  6.183 ms
10  be-11020-cr01.champa.co.ibone.comcast.net (68.86.84.10)  49.127 ms  48.341 ms  48.861 ms
11  be-12021-cr02.1601milehigh.co.ibone.comcast.net (68.86.84.226)  49.773 ms  47.623 ms  48.552 ms
12  be-10521-cr02.350ecermak.il.ibone.comcast.net (68.86.85.169)  54.967 ms  57.737 ms  53.835 ms
13  be-10577-pe03.350ecermak.il.ibone.comcast.net (68.86.86.2)  55.067 ms  55.208 ms  54.269 ms
14  as32244-pe03.350ecermak.il.ibone.comcast.net (50.242.150.130)  55.320 ms  62.695 ms  54.863 ms
15  lw-dc3-core1-eth2-19.rtr.liquidweb.com (209.59.157.244)  60.836 ms  60.538 ms  61.894 ms
16  lw-dc3-storm1.rtr.liquidweb.com (69.167.128.89)  60.333 ms
    lw-dc3-storm2.rtr.liquidweb.com (69.167.128.145)  63.229 ms  61.931 ms
17  * * *
18  * * *
```