Lab Report –Network Programming

Lab Report Format:

Instructions:

- **Create your new repository on GitHub and push your lab solution to GitHub with new branch for each lab set.**
- **Share your repository to instructor.basanta@gmail.com as a collaborator.**
- **Print and attach your updated GitHub screenshot into lab set**

Format

- Cover (Print)
- GitHub Screenshot
- Lab Question –hand written
- Introduction –hand written
- Syntax and Format –hand written (Class, Methods and Properties)
- Code –hand written
- Output(Print).

Please complete following lab task and prepare lab report accordingly.

1. Write a program to display the IP address of your system.
2. Write a program to implement InetAddress getter methods.
3. Write a program to print the characteristics (address types) of an IP address.
4. Write a program to check IPv4 and IPv6 Address.
5. Write a program to list the interfaces available in your system.
6. Write a program to display IP and MAC address of your system.
7. Write a program to retrieve IP address providing Interface address or MAC address.
8. Write a program to retrieve MAC address providing an IP address.
9. Write a program to illustrate factory and getter methods of NetworkInterface Class.
10. Write a program to retrieve data from URL.
11. Write a program to split URL.
12. Write a program to check which protocol does a virtual machine support?
13. Write a program to display the parts of URI.
14. Write a program to show the use of URLEncoder Class.
15. Write a program to show the use of URLDecoder Class.
16. write a program for a ProxySelector that remembers what it can connect to.
17. Write a program to show a simple CookiePolicy that blocks cookies from .gov domains, but allows others.

18. Write a program to retrieve cookies information.
19. Write a program to retrieve information from header using header specific methods.
20. Write a program to retrieve information from header using arbitrary header methods.
21. Write a program to download a web page with the correct character set.
22. Write a program to print the entire HTTP header.
23. Write a program to configure URLConnection.
24. Write a to download webpage using URLConnection.
25. Write a program to get information about the TCP socket.
26. Write a program to create TCP echo server and client.
27. Write a program to create a TCP daytime client and server.
28. Write a program to create a TCP client and server to share text messages.
29. Write a program to create a TCP client and server to calculate factorial.
30. Write a program to create a TCP client and server to share a text file.
31. Write a program to create a Multi-threaded TCP server and client to check the prime number.
32. Write a program to set the TCP client socket options.
33. Write a program to set the TCP server socket options.
34. Write a program to create http file server.
35. Illustrate the procedure of creating secure client and server socket.
36. Write a program to get information about the UDP socket.
37. Write a program to create a TCP client and server to share text messages using NIO.
38. Write a program to create UDP echo server and client.
39. Write a program to create a UDP daytime client and server.
40. Write a program to create a UDP client and server to share text messages.
41. Write a program to create a UDP client and server to check given number is Armstrong or not.
42. Write a program to set the UDP socket options.
43. Illustrate the process for communicating with Multicast group.
44. Write a program for multicast sniffer.
45. Write a program to calculate GCD using RMI.