Homework

The following homework is designed to cover the course objectives for this unit.

Assignment 4.1:

Research the ITT Tech Virtual Library to learn about the difference between a port and a socket. Cite your sources using Chicago Manual of Style format. Submit your report to your instructor at the beginning of Unit 5.

Assignment 4.2:

Research the ITT Tech Virtual Library to find out the purpose of the ServerSocket class and identify the package it is found in. Cite your sources using Chicago Manual of Style format. Submit your report to your instructor at the beginning of Unit 5.

Assignment 4.3:

Research the ITT Tech Virtual Library to state the different methods that are used to retrieve the protocol, the host, the port, the file, and the reference of a URL object named URL. Cite your sources using Chicago Manual of Style format. Submit your report to your instructor at the beginning of Unit 5.

Assignment 4.4:

Research the ITT Tech Virtual Library to find out how the URL http://www/google.com can be turned into a URI object. Cite your sources using Chicago Manual of Style format. Submit your report to your instructor at the beginning of Unit 5.

Assignment 4.5:

Answer the following questions and submit them to your instructor at the beginning of Unit 5. ***Note:*** Some questions may go across multiple pages; be sure to read the entire question and all answer options.

1. The client requests a connection to a server using which of the following statements?

   a. `Socket s = new Socket(ServerName, port);`
   b. `Socket s = serverSocket.getSocket();`
   c. `Socket s = new Socket(ServerName);`
   d. `Socket s = serverSocket.accept();`

2. The _____ models an IP address, which can be used to find the host name and IP address of the client.

a. Connection interface
b. InetAddress class
c. Socket class
d. ServerSocket class

3. When a server is created on a port that is already in use, _____.

a. the server is created with no problems
b. the server encounters a fatal error and must be terminated
c. the server is blocked until the port is available
d. java.net.BindException occurs

4. A ServerSocket can connect to _____ clients.

a. two
b. ten
c. an unlimited number of
d. one

5. The server listens for a connection request from a client using which of the following statements?

a. `Socket s = new Socket(ServerName);`
b. `Socket s = serverSocket.accept()`
c. `Socket s = new Socket(ServerName, port);`
d. `Socket s = serverSocket.getSocket()`

6. When a client is created on a server port that is already in use, _____.

a. the client is blocked until the port is available
b. the client encounters a fatal error and must be terminated
c. java.net.BindException occurs
d. the client can connect to the server regardless of whether the port is in use

7. To create an InputStream to read from a file on a Web server, you use the method _____ in the URL class.

a. connectStream();
b. getInputStream();
c. obtainInputStream();
d. openStream();

8. To obtain an ObjectInputStream from a socket, use _____.

a. socket.objectInputStream()
b. socket.getObjectStream()

c. socket.getObjectInputStream()
d. socket.getInputStream()

9. To create an InputStream on a socket s, you use _____.

a. `InputStream in = s.obtainInputStream();`
b. `InputStream in = s.getStream();`
c. `InputStream in = s.getInputStream();`
d. `InputStream in = new InputStream(s);`

10. You can invoke _____ on a Socket object, say socket, to obtain an InetAddress object.

a. socket.obtainInetAddress();
b. socket.getInetAddress();
c. socket.InetAddress();
d. socket.retrieveInetAddress();

11. When a client requests connection to a server that has not yet started, _____.

a. java.net.BindException occurs
b. java.net.ConnectionException occurs
c. the client encounters a fatal error and must be terminated
d. the client is blocked until the server is started

12. You can obtain the server's hostname by invoking _____ on an applet.

a. getCodeBase().hostName()
b. getCodeBase().getHostName()
c. getCodeBase().getHost()
d. getCodeBase().host()

13. To obtain an ObjectOutputStream from a socket, use _____.

a. socket.getObjectOutputStream()
b. socket.objectOutputStream()
c. socket.getObjectStream()
d. socket.getOutputStream()

14. To connect to a server running on the same machine with the client, which of the following can be used for the hostname?

a. 127.0.0.1
b. localhost
c. InetAddress.getLocalHost(),

d. All of the above

15. To create an InputStream to read from a file on a Web server, you should use the class _____.

    a. ServerSocket;
    b. ServerStream;
    c. Server;
    d. URL;

16. The _____ method in the InetAddress class returns the IP address.

    a. getAddress()
    b. getHostAddress()
    c. getIP()
    d. getIPAddress()

17. The server can create a server socket regardless of whether the port is in use or not.

    a. True
    b. False

18. You can transmit objects over the socket.

    a. True
    b. False

19. The client can connect to the server regardless of whether the port is in use or not.

    a. True
    b. False

20. The java.net.ConnectionException occurs when a client attempts to connect to a server that has not yet started.

    a. True
    b. False