# CS625 Assignment1

Question 1: Describe the seven layers in the OSI network model and what they do.

Layer 1: Physical Layer this layer major in transmitting data bit and set some rules about which bits can be transmitted.

Layer 2: Data Link Layer this layer major in understanding the meaning or structure of the bits and solve the problems.

Layer 3: Network Layer this layer major in finding the next computer and sending the message to it.

Layer 4: Transport Layer this layer major in dealing with the logical connections for the transfer of data between the sender and the destination.

Layer 5: Session Layer this layer major in managing and structuring all sessions.

Layer 6: Presentation Layer this layer major in formatting the data for presentation to the user.

Layer 7: Application Layer this layer major in letting the user to access to the network.

Question 2: Visit the Internet Engineering Task (IETF) website (www.ietf.org). Describe one standard that is in the RFC stage.

Host Software：The software for the ARPA Network exists partly in the IMPs and partly in the respective HOSTs. BB&N has specified the software of the IMPs and it is the responsibility of the HOST groups to agree on HOST software. During the summer of 1968, representatives from the initial four sites met several times to discuss the HOST software and initial experiments on the network. There emerged from these meetings a working group of three, Steve Carr from Utah, Jeff Rulifson from SRI, and Steve Crocker of UCLA, who met during the fall and winter. The most recent meeting was in the last week of March in Utah. Also present was Bill Duvall of SRI who has recently started working with Jeff Rulifson. Somewhat independently, Gerard DeLoche of UCLA has been working on the HOST-IMP interface. I present here some of the tentative agreements reached and some of the open questions encountered. Very little of what is here is firm and reactions are expected.

Question 3: Compare and contrast two-tier, three-tier, and ***n***-tier client–server

architectures. What are the technical differences, and what advantages and disadvantages does each offer?

Technical differences: the numbers of computers which they use. Two-tier: server is responsible for the data and the client is responsible for the application and presentation. Three-tier: software is responsible for presentation and an application server is responsible for the application and a separate database server is responsible for the data. N-tier: client is responsible for the presentation, database is responsible for the data, application logic is spread across two or more different servers.

Advantages: n-tier: it separates the processing that occurs to better balance the load on the different servers.

Disadvantages: n-tier: it puts a greater load on the network. And it is much more difficult to program and test software.

Question 4: Compare and contrast the three cloud computing models.

Private cloud: private clouds are created for the exclusive use of a single private organization.

Public cloud: this deployment model is used by multiple organizations that share the same cloud resources.

Community cloud: this deployment model is used by organizations that have a common purpose.

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|  | **Grade** | **Qualities Demonstrated by the Assignment Submission** | **Grade Assigned** |
| **Content (70%)**  **Measures the quality of the content in the assignment** | A+ 🡺 100 | The content demonstrates exceptional understanding of all relevant subject matter and its inter-relationships. All major relevant issues are thoroughly covered, and all content is very focused and on-topic. There is no known way to improve the content, and there are absolutely no technical or coverage errors present. | **82** |
| A 🡺 96 | The content demonstrates exceptional understanding of all relevant subject matter and its inter-relationships. All major relevant issues are thoroughly covered, and all content is very focused and on-topic. At most one insignificant technical or coverage error may be present |
| A- 🡺 92 | The content demonstrates deep understanding of all relevant subject matter and its inter-relationships. All major relevant issues are covered, and all content is on-topic. |
| B+ 🡺 88 | The content demonstrates understanding of all relevant subject matter and its inter-relationships. Almost all major relevant issues are covered, and the content is at least reasonably on-topic. |
| B 🡺 85 | The content demonstrates understanding of most relevant subject matter and its inter-relationships. Almost all major relevant issues are covered, and all content is at least reasonably on-topic. |
| B- 🡺 82 | The content demonstrates moderate understanding of much relevant subject matter and its inter-relationships. There is reasonable coverage of major relevant issues, and the content is at least reasonably on-topic. |
| C+ 🡺 78 | The content demonstrates some understanding of relevant subject matter and its inter-relationships. Some major relevant issues are covered, and at least some content is on-topic. |
| C 🡺 75 | The content demonstrates understanding of a small portion of the relevant subject matter and its inter-relationships. Some major relevant issues are covered, and at least a small portion of the content is on-topic. |
| C- 🡺 72 | The content demonstrates little understanding of and insight into the relevant subject matter and its inter-relationships. A small portion of the major relevant issues are covered. The focus of the content may be off topic or on insubstantial or secondary topics |
| D 🡺 67 | The content demonstrates almost no understanding of or insight into the relevant subject matter and its inter-relationships. Almost none of the major relevant issues are covered, and the content may be almost entirely off-topic. |
| F 🡺 0 | The content demonstrates no understanding of or insight into the relevant subject matter and its inter-relationships. No major relevant issues are covered, and the content is entirely off-topic. |
| **Exposition (30%)**  **Measures how well the content is expressed** | A+ 🡺 100 | The presentation of all ideas and designs is exceptionally clear and persuasive; the entire submission is exceptionally organized. There is no known way to improve the clarity or organization of the submission. | **85** |
| A 🡺 96 | The presentation of all ideas and designs is exceptionally clear and persuasive; the entire submission is exceptionally organized. There may be at most one insignificant way to improve the clarity or organization of the submission. |
| A- 🡺 92 | The presentation of all ideas and designs is very clear and persuasive; the entire submission is very organized. |
| B+ 🡺 88 | The presentation of all ideas and designs is clear and persuasive; the entire submission is organized. |
| B 🡺 85 | The presentation of most ideas and designs is clear and persuasive; most of the submission is 8organized. |
| B- 🡺 82 | The presentation of most ideas and designs is generally clear; most of the submission is reasonably organized. |
| C+ 🡺 78 | Some parts of the submission are hard to understand; some parts are disorganized. |
| C 🡺 75 | About half of the submission is hard to understand; about half is disorganized. |
| C- 🡺 72 | Most parts of the submission are hard to understand; most parts are disorganized. |
| D 🡺 67 | Almost all of the submission is hard to understand and disorganized. |
| F 🡺 0 | The entire submission is hard to understand and disorganized. |
| **OVERALL GRADE:** | | | **82.9** |