Lab 2: Standards

**Brain Storming Task:**

You work for a research company as a member of the **Experimental Research Team**. Presently, the company is growing quickly and to exchange files, users must physically walk a disk or drive over to someone else if they wish to share files; this is inefficient. The company wants your team to develop a new way to exchange files electronically between to two computers using a cable. Today, is the first meeting of the team to discuss the problem. Assume, that due to some reason the team cannot meet, and the team leader has asked all the team members to send their suggestions before having a formal meetup. Being the team member submit your suggestions.



**Instructions:**

1. Identify the two most important topics or components that are necessary for communication to occur.

Physical connection and Protocol are the two most important components that are necessary for communication.

1. Discuss that why the proposed components are important.
2. Physical Connection:-

LAN cable is used to secure connection between two devices so that data can be securely transferred between those two devices.

1. Protocol:-

The rules and regulations are for the data are established a connection between the devices and verifying the sources flexibly and in more convenient way.

**Encoding:**

1. Do a Google search and find the ASCII decimal and binary values for the capitalized first letter of your first name . 🡪 **N**
2. Write the decimal value \_\_78\_\_\_ . Write the binary value\_\_\_\_\_\_\_\_\_\_\_01001110\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Write the binary value at the top of the chart. Write a bit between each vertical dotted line.
4. Use the chart to map the binary value using NRZI encoding (Non-Return to Zero Inverted). A change in voltage at the beginning of a clock cycle (vertical dotted lines) is a “1”. No change in voltage at the beginning of a clock cycle is a “0”. The horizontal dotted lines represent voltage 0.5 voltage levels. Map each letter to 6th horizontal line which represents +3 volts. Do not go below the horizontal axis in mapping your value.
5. After mapping the value, answer the following questions:
   1. How many characters in total were transmitted? \_\_\_\_\_1\_\_\_\_\_\_\_\_\_\_\_\_
   2. How many bits in total were transmitted? \_\_\_\_\_8\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. How many times did the signal change? (baud rate) \_\_\_4\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. What is the bit rate? \_\_\_4\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

**Standard Making Bodies**

Do a Google search and write the answers in the space below. Use your own words. DO NOT copy and paste the answers. The answers are all one line of text.

1. **International Organization for Standardization (ISO)**
2. What is the web site address for the ISO?

The website address for the ISO is : [www.ISO.comIt](http://www.ISO.comIt)

1. What type of standard making body is it and who are its members?

It is used for creating, setting and promoting the standards. There are 167 members in this.

1. What is an example of an ISO standard?

The ISO 9001 is the example and is widely used for developing , implementing and sustaining the quality for the business.

1. **Institute of the Electrical and Electronic Engineers (IEEE)**
2. What is the web site address for the IEEE?  
   The website address for the ISO is : www.ieee.com
3. What type of standard making body is it and who are its members?  
   It is an organization who have more 160 nations and it is form of the professional association.
4. What is an example of an IEEE standard?  
   The IEEE 802.3 (Ethernet™) and IEEE 802.11 (Wi-Fi™) networks is an example of the IEEE standard and it develops the framework that can communicate between two devices, networks, servers etc.
5. **International Telecommunications Council (ITU-T) Telecommunications**
6. What is the web site address for the ITU?  
   the website address for ITU is www.ITU.int
7. What is the web site address for the ITU-Telecom?  
   The website address for the ITU- Telecom is https://digitalworld.itu.int/
8. What type of standard making body is it ITU-T and who are its members?  
   The ITU-I contains companies, research, institutions, and organizations representing 193 Member States make up its membership and there are more than 900. Furthermore, it is specialized agency.
9. What is an example of an ITU-T standard?

651.1 is an international standard developed by the Standardization Sector of the international Telecommunication Union (ITU-I) that specializes multi-mode optical fiber(MMF) cable.

1. **What is the name of Canada’s standard organization?**
2. What is its mission or mandate?

The Standards Council of Canada (SCC) is the standard organization of the Canada and the main function it is to give exposure in effective and efficient standardization that raises the social welfare in Canada in a well manner by working with the customers and the stakeholders.

**Grading:**

* Neron\_Lab2\_StandardBodies.docx

Remember replacing **learnname** with **your name** for submission.

Submit using the Lab2 Submission link under MySeneca\Graded Work