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.
2. Discuss that why the proposed components are important.

**Encoding:**

1. Do a Google search and find the ASCII decimal and binary values for the capitalized first letter of your first name .
2. Write the decimal value \_\_\_\_\_ . Write the binary value\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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 hortizontal axis in mapping your value.
5. After mapping the value, answer the following questions:
   1. How many characters in total were transmitted? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. How many bits in total were transmitted? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. How many times did the signal change? (baud rate) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. What is the bit rate? \_\_\_\_\_\_\_\_\_

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**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?
3. What type of standard making body is it and who are its members?
4. What is an example of an ISO standard?
5. **Institute of the Electrical and Electronic Engineers (IEEE)**
6. What is the web site address for the IEEE?
7. What type of standard making body is it and who are its members?
8. What is an example of an IEEE standard?
9. **International Telecommunications Council (ITU-T) Telecommunications**
10. What is the web site address for the ITU?
11. What is the web site address for the ITU-Telecom?
12. What type of standard making body is it ITU-T and who are its members?
13. What is an example of an ITU-T standard?
14. **What is the name of Canada’s standard organization?**
15. What is its mission or mandate?

**Grading:**

* learnname\_Lab2\_StandardBodies.docx

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

Submit using the Lab2 Submission link under MySeneca\Graded Work