**CS120 Project 1**

1. How many days before the deadline did you start working on the project?[矩阵文本题] [输入0到14的数字] \*

|  |  |
| --- | --- |
|  |  |
| Days | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

2. How much time did you spent on this project? (Hours spent actually working on the project)[矩阵文本题] [输入0到48的数字] \*

|  |  |
| --- | --- |
|  |  |
| Hours | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

3. Rank project 0, 1 in terms of the time you spent working on them. (In ascending order) [排序题，请在中括号内依次填入数字] \*

|  |
| --- |
| [ ]Project 0 Setup |
| [ ]Project 1 Acoustic LInk |

4. Rank each part in project 1 in terms of the time you spent working on them. (Ascending order) [排序题，请在中括号内依次填入数字] \*

|  |
| --- |
| [ ]Modulation and Demodulation |
| [ ]Framing |
| [ ]Transferring Your First Bit |
| [ ]Higher Bandwidth |
| [ ]Error Correction Code |

5. What modulation technique did you use? [单选题] \*

|  |
| --- |
| ○ASK |
| ○FSK |
| ○PSK |
| ○Others \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \* |

6. Describe your frame format  
- Use a C-ish syntax, (struct with bitfield)  
- Use '\*' denote a variable length field  
- Do NOT include header in your frame format  
- Provide comments for each field  
- E.g.   
struct Frame {  
unsigned src : 4;  
unsigned dst : 4;  
unsigned length : 8; // length in multiples of 8 bytes  
unsigned payload : \*;  
} [填空题] \*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Enter your carrier wave frequeny(ies) in Hz.  
- Separate each carrier frequency with a comma if you're using multiple carriers  
- E.g. 6000,7000,8000 [填空题] \*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Upload a line plot of your head/preamble wave form.  
- X-axis should denote time sequence  
- Y-axis should denote amplitude (normalize to range -1.0 ~ 1.0) [上传文件题] \*

9. Enter your header/preamble length in number of **audio samples**. [填空题] \*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Enter your payload field length in number of **audio samples**.  
- Enter maximum payload length if your physical frame is variable length. [填空题] \*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Enter your payload field length in number of **bits**.  
- Enter maximum payload length if your physical frame is variable length. [填空题] \*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. On a scale of 0 to 100, at what volume does your acoustic link work best?  
- Normalize to the range 0 ~ 100 if your system's max volume is not 100.[矩阵文本题] [输入0到100的数字] \*

|  |  |
| --- | --- |
|  |  |
| Volume | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

13. Report the overall throughput of your acoustic link in kilo bits per second.  
- Numerator is file size (total payload size)  
- Denominator should be program wall time (launch to exit) [填空题] \*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_