Specification Report

1 Program Functionality

- Line coding encoder and scrambler with digital data generator

2 Language and Libraries Used

- Language Used : C++
- IDE used : Any 64 bit c++ compiler
- API used : OpenGL
- Libraries : string, stdlib
- Linker settings : GL, GLU ,GLEW, glut

3 Prerequisites

- Knowledge of Line encoding schemes.
- All files should be in the same folder.

4 How to run the code ?

1. Compile the code .
2. If you want to apply NRZ-I, NRZ-L, Manchester, Differential-Manchester and Basic AMI line encoding scheme then choose:
   - completely random sequence.
3. If you want to apply AMI with scrambling i.e B8ZS & HDB3 line encoding scheme then choose:
   - A random sequence with fixed sub-sequences.
     - Choose 4 zeros for HDB3.
     - Choose 8 zeros for B8ZS.
4. Then choose the required line encoding scheme.
5. If you choose AMI then you will be asked whether you want to use scrambling technique or not, if yes then choose the scrambling technique (HDB3 or B8Z5).

5 References

- Textbook Data Communications and Networking By Behrouz A.Forouzan (For line encoding schemes)
- ntu.edu (For openGL tutorials.)
- GeeksforGeeks (For optimizing longest palindrome function.)
- TheCherno (Youtube Channel) for openGL tutorials.