NIRBHAY MAURYA

2019BITEO58

DATA COMMUNICATION

LINE ENCODING

PROJECT:

Generate the digital signal from digital data stream in different line encoding techniques and also use scrambling in c++.

Language used: c++

Platform: windows , macos and linux.

LIBRARIES USED:

GLFW/glfw3.h

https://www.glfw.org/documentation.html

stdlib.h

stdio.h

string

iostream

ctime.

SKILLS REQUIRED:

1.Use of opengl api

https://www.opengl.org/

2. object oriented programming

https://www.geeksforgeeks.org/object-oriented-programming-in-cpp/

3. Dynamic Programming for LPS

https://www.geeksforgeeks.org/dynamic-programming/

In the project ,in glfw signal are plotted by using points and lines only.

INPUT:

1.type of data stream to be generated(random or fixed substring).

2.type of encoding to be used.

3.If AMI is choosen , then scrambled or unscrambled

4. type of scrambling

OUTPUT:

1.Data stream generated

2.longest palindromic subsequence

3.signal generated.

OUTPUT PREVIEW:

CONSOLE SCREEN:

```
******line encoding of digital data stream******
enter the size of stream to be generated: 18
press:
 1: for random stream generation
 2: for fixed substream generation....:2
press
 1: for 8 consecutive 0s
 2: for 4 consecutive 0s...:2
*****************************
digital stream generated: 000111001001100000
longest palendromic subsequence:000110010011000
*****************************
please select type of encoding technique:
press:
 1: for NRZ-I
 2: for NRZ-L
 3: for manchaster(IEEE.8)
 4: for diff manchaster(IEEE.8)
 5: AMI....: 5
press:
 1: for scrambled output
 2: for unscrambled output....:1
press:
 1: for HDB3
 2: for B8ZS....:1
```

SIGNAL PLOTTED:

Scrambled HDB3 AMI line encoding: