# **Project Planning Report for LOSS LESS DATA COMPRESSION**

My name is Pragnya Gannapureddy, and I am doing this project together with Edla Nitheesh. The contributions I made for this report are selecting the topic for the project by research and evaluation plan and contributions by Nitheesh are background check and designed the implementation schedule.

**TOPIC:**

Using the greedy approach method, we are implementing a lossless data compression

algorithm so that we can encode and decode the string using binary codes.

Lossless data compression is used in many industries applications for

For example, WinRAR, 7-Zip are the basic applications that use this technique, these applications convert the data that is present in the form of text, image or video and convert that data into binary, if we store the actual data it is stored in ASCII code for all the strings but when we do the compression it is stored in binary so that decreasing the storage space.

**Motivation:**

We found out that lossless data compression is a so much useful when we want to compress data by encoding and decoding and we also got to know a few applications using this technique, we are trying to minimize the file as small as possible than the applications, we will go through a lot of learning process for this project.

**Background:**

Upon checking so many compression algorithms like Shannon-Fano Coding, Arithmetic Coding, Huffman Coding, few audio compression algorithms, etc we decided to design an algorithm that’s a bit like Huffman Coding that may take fewer bytes after compressing. In this algorithm, we wanted to do the exact opposite of the Huffman coding and get our desired result.

**Implementation:**



This project is implemented in the C++ programming language, and we use data

structures like trees and queues (priority queue) and sorting techniques like heap sort and various data types and inbuilt libraries.

**Evaluation Plan:**

Once we are done with the project code we will try testing with different sets of data to check the correctness of the code, then after will try to improve the code as much as possible.