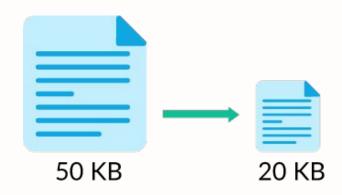
Problem Statement

File compression and Decompression using Huffman Coding.

The project compresses .docx and .txt files to a bin file which is a encoded file. The project also decompresses the .bin file to the original .docx or .txt.



Working

- The application displays a window which allows you to select a .docx or .txt file to compress.
- It also directly allows to select .bin file to decompress.
- After the file is selected it compresses or decompresses accordingly and then asks for the folder to save that file.
- The file is saved at the mentioned location.

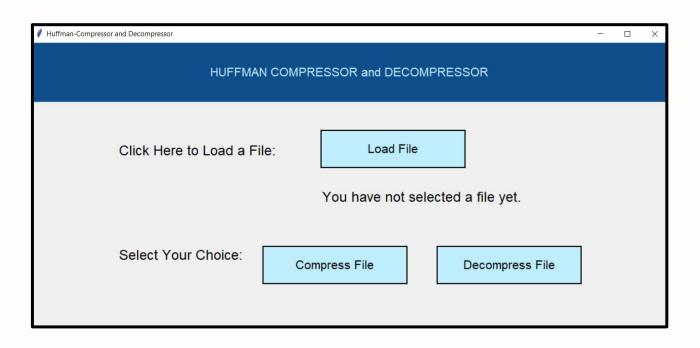
Huffman Coding

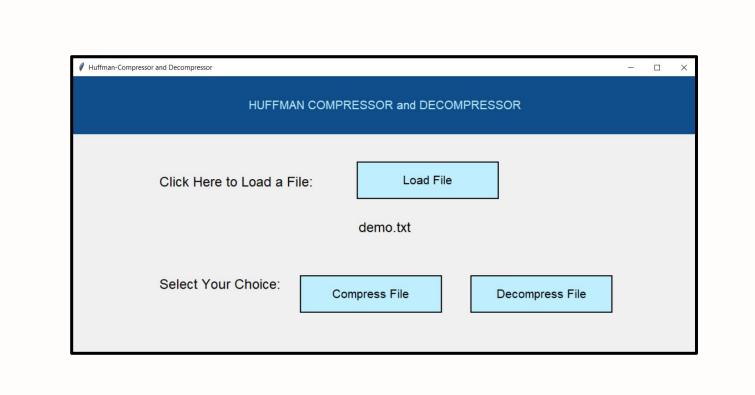
Huffman code is a data compression algorithm which uses the greedy technique for its implementation. The algorithm is based on the frequency of the characters appearing in a file.

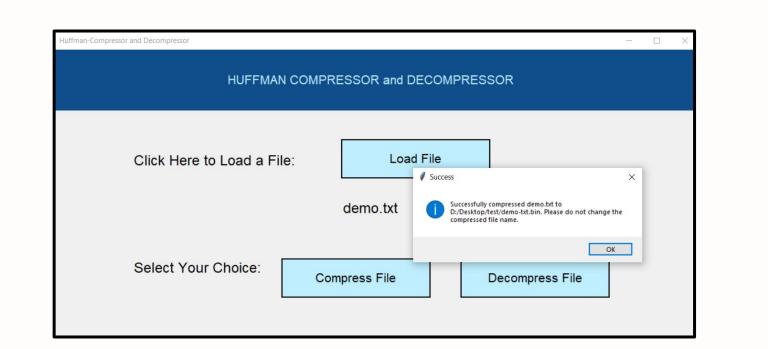
We know that our files are stored as binary code in a computer and each character of the file is assigned a binary character code and normally, these character codes are of fixed length for different characters.

For example, if we assign 'a' as 000 and 'b' as 001, the length of the codeword for both the characters are fixed i.e., both 'a' and 'b' are taking 3 bits.

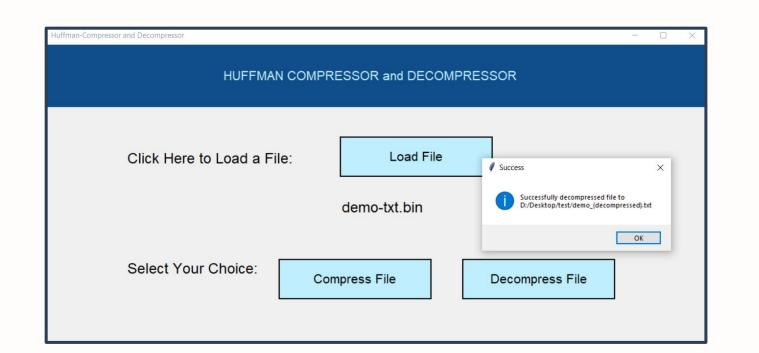
Snapshots

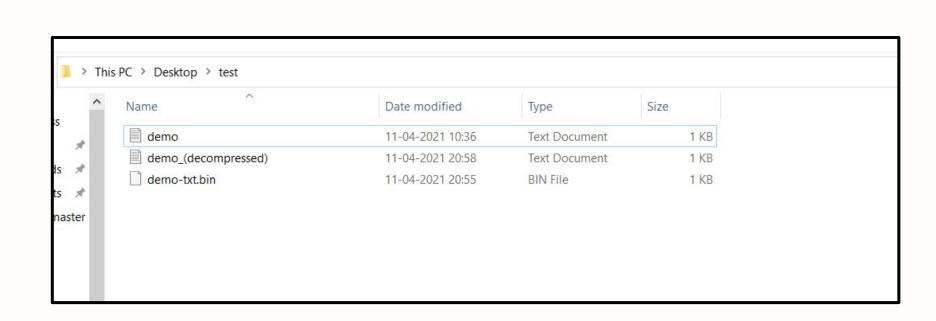






HUFFMAN CC	DMPRESSOR and DECOMPRESSOR
0	Lood File
Click Here to Load a File:	Load File
	demo-txt.bin
Select Your Choice:	
Select Your Choice.	Compress File Decompress File





	demo		demo-txt.bin
ype of file:	Text Document (.txt)	Type of file:	BIN File (.bin)
pens with:	Notepad Change	Opens with:	Pick an app Change
ocation:	D:\Desktop\test	Location:	D:\Desktop\test
ize:	1016 bytes (1,016 bytes)	Size:	546 bytes (546 bytes)
ize on disk:	4.00 KB (4,096 bytes)	Size on disk:	0 bytes
reated:	11 April 2021, 10:36:05	Created:	11 April 2021, 20:55:35
lodified:	11 April 2021, 10:36:05	Modified:	11 April 2021, 20:55:35
ccessed:	11 April 2021, 20:53:54	Accessed:	11 April 2021, 20:55:37
ttributes:	Read-only Hidden Advanced	Attributes:	Read-only Hidden Advanced

	demo_(decompressed)	
	T. 10	
Type of file:	Text Document (.txt)	
Opens with:	Notepad Change	
Location:	D:\Desktop\test	
Size:	1016 bytes (1.016 bytes)	
Size on disk:	4.00 KB (4,096 bytes)	
Created:	11 April 2021, 20:58:16	
Modified:	11 April 2021, 20:58:16	
Accessed:	11 April 2021, 20:58:16	
Attributes:	Read-only Hidden Adva	nced