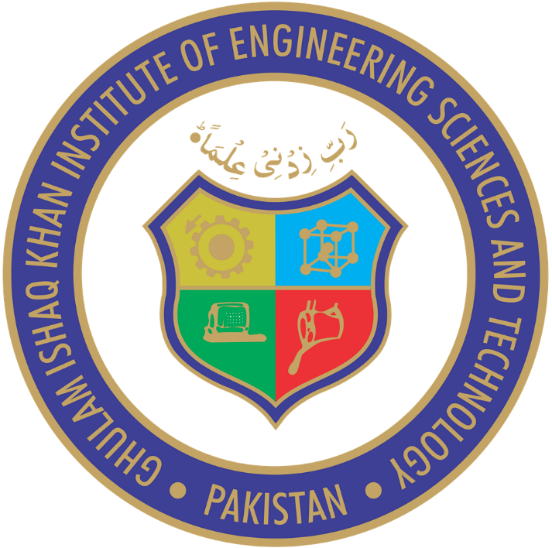
**CS-221L Data Structures Lab**

**Semester Project Report**

Ghulam Ishaq Khan Institute of Engineering Sciences & Technology, Topi, Swabi 23460, Pakistan

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**Image Compression**

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## **Working and Principle:**

We use the basic principle of reading pixel values and storing them in a matrix. Then counting all of the frequency of every reoccurring RGB value and storing it. We then use those pixel values and their frequencies in a priority queue. The priority queue is then used to output values into a binary tree, this binary tree is then traversed while adding a ‘1’ when it goes to the right node and a ‘0’ while going to the left node to return a binary tree at each leaf node.

This binary code becomes the code for that respective RGB value, which is stored in the compressed file.

## **Data Structures used:**

HashMap

Binary Tree

Min Queue

Linked List