**CS5600: Written Assignment 2 (25 pts.)**

1. Create the B+Tree Index(m=4) after insert the following input index: (10 pts.)

10, 1, 4, 13, 3, 1, 2, 5, 1, 13, 10, 7, 6, 8, 9, 2, 10, 4, 3, 7, 6, 12, 5, 4, 13.

**Note: Please show each step, not only the final answer.**

1. Regarding to the following B+Tree Index(m=3):

A diagram of a number system

Description automatically generated with medium confidence

If we delete index key 7, all 5s and all 3s what is the B+Tree Index after the deletion? (5 pts.)

**Note: Please show each step, not only the final answer.**

1. Linear Hash: Create the hash table from the following index key values, with the bucket size = 3, and initial hash function: hash1 = index value mod 2, hash2 = index value mod 4, …

Given input index keys: 12, 13, 11, 9, 8, 7, 2, 3, 10, 4, 5, 1, 6, 14.

* 1. What is the hash table after round 0? (5 pts.)
  2. What is the final hash table? (5 pts.)

**Note: Please show each step, not only the final answer.**