Answer question 1 and any 2 questions from the questions 2-4.

1. Construct B+ tree with n=4 for the search key values according to your student id range as given below. You must show all splitting of nodes. **(Check your range)**   (10)

Student id: **1705001 to 1705040**, the search key values are: 20,21,22,23,24,25,26,27,28,29,30,31

Student id: **1705041 to 1705080**, the search key values are: 26,27,28,29,30,31,32,33,34,35,36,37

Student id: **1705081 to 1705121**, the search key values are: 32,33,34,35,36,37,38,39,40,41,42,43

Student id: **all other students,** the search key values are: 34,35,36,37,38,39,40,41,42,43,44,45

2. 'Sparse index has less maintenance overhead for insertion and deletion compared to dense index.', Explain with an example.   (5)
3. Sequential scan using a secondary (nonclustering) index is expensive on magnetic disk. Explain for the following query and the index structure given below.   (5)

     Select * from instructor where salary <= 90000
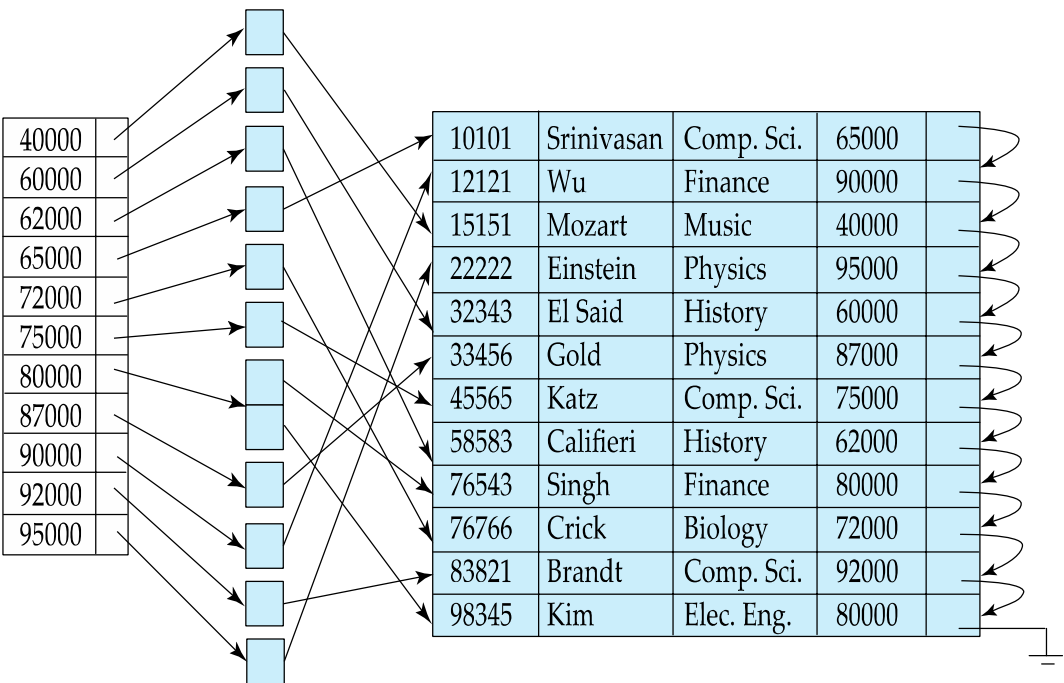
4. "Secondary index must be dense index." Explain with an example.