

Lab 7. Physical Design

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Question 1:

- a. Zipcode index using the ZIP table sorted by CollegeName in descending order because Zipcode is used as a foreign key in the COLLEGE table for join queries
- b. Unique LectureID index on the LECTURER table since LectureID is the primary key for the LECTURER table
- c. LectureID index using the Lecture table sorted by TopicOfExpertise in descending order then sorted by ExpertiseLevel in descending order because LectureID is used as a foreign key in the EXPERTISE table for join queries
- d. CarnegieClass index using the COLLEGE table sorted by Zipcode as a secondary index from the ZIP table because Zipcode is used as a foreign key in the COLLEGE table
- e. Email index on the LECTURER table because it will show information such as LectureID and Name based upon their email

Question 2:

For 1NF, each unique PNUMBER represents a unique PNAME which means that PNUMBER can be used as the index. 2NF can also use PNUMBER as an index but since PNUMBER is used a foreign key for the second table, it would be less efficient due a join being used.

Question 3:

