Data-Warehouse-Technologien

Exercise sheet 9

Assignment 1: **Classify the index structures discussed in the lecture!**

Assignment 2: **Define the properties of an ideal index for data warehouses.**

Assignment 3: **Compare the resource consumption of B+- and standard bitmap indizes for the following data:**

1. **number of tuples: 5000000; number of key values: 100; resource consumption for 1 TID in Byte: 1;**
2. **number of tuples: 5000000; number of key values: 3; resource consumption for 1 TID in Byte: 1;**
3. **number of tuples: 5000000; number of key values: 3; resource consumption for 1 TID in Byte: 4;**

Assignment 4: **Transform the postal code 39106 into a bitmap index using the Standard-Bitmap-Index and the Multi-Component-Bitmap-Index. How can Bitmap-Indexes be used to support range queries for postal codes?**

Assignment 5: **Construct a R-Tree for the following data. Insert the data in the order of the given list. A node has at most 3 entries, thus a MBR is described. Outline the insertion process. Assume an approach to minimize the number of boxes.**

(10 Z), (20 K), (30 A), (40 L), (50 M), (60 N), (70 D), (80 X)

Assignment 6: **What is a Gridfile? How is it created? what are its advantages compared to tree based approaches? Use the information of exercise 5 to create a grid file.**

 Good Luck!