# Question 1

* 20000 tuples
* 600 data pages
* Prefix: 20 bytes
* Full: 30 bytes
* 200 different types
* 50 producers
* Rid has 10 bytes
* Pointer has 6 bytes
* Leaf pages are filled about 70%
* Index page has 4000 Bytes

1. We have possible different values. Then as its uniformly distributed we have 10000 data entries

The number of rids per data entry is

The average length of a data entry is

1. The size of a data entry in the middle node is. Then the average number of data entry per intermediate page is and the average number of data entry per leaf page is If we have a tree of height 2 then we can cover at most different cases then we need a tree of height 3 as .

Number of leaf pages is and as the root is full it has 86 data entry so the there is 87 intermediate pages.