Topic: Page and Record Formats for Heap File Organization

Assigned reading: Section 9.6 from Raghu Ramakrishnan's book

Depending on length of records, we will consider following two cases for page formats: fixed length records and variable length records. When the record length is fixed then, each data page can be divided into fixed number of slots for each record. We will maintain a directory within each page to keep track of status of each record slot: empty of occupied.

When record length is variable, we need to generalize the previous page format. We will still divide the page into slots for storing records. However, now slots will have variable size. We will maintain a directory in each page to keep track of status of each record slot in that particular page. However, each directory entry will store more data about the record slot and the directory itself can grow or shrink.

Within each record slot, we can think of record formats in the similar manner. In case of a relation DBMS, the number of attributes per record is fixed in a given relation. When the record length is fixed, we just need to know the base address of the record within the page. For variable length records, we can either maintain a directory at the beginning of each record or use special symbols as delimiters between attributes.