view vs stored procedure

View is simple showcasing data stored in the database tables whereas a stored procedure is a group of statements that can be executed. A view is faster as it displays data from the tables referenced whereas a store procedure executes sql statements.

view vs material view

Views are generally used when data is to be accessed infrequently and data in table get updated on frequent basis. On other hand Materialized Views are used when data is to be accessed frequently and data in table not get updated on frequent basis.

b v.s. b+ tree

B-Tree is known as a self-balancing tree as its nodes are sorted in the inorder traversal. In B-tree, a node can have more than two children. B-tree has a height of logM N (Where ‘M’ is the order of tree and N is the number of nodes). And the height is adjusted automatically at each update. In the B-tree data is sorted in a specific order, with the lowest value on the left and the highest value on the right. To insert the data or key in B-tree is more complicated than a binary tree.

B+ tree eliminates the drawback B-tree used for indexing by storing data pointers only at the leaf nodes of the tree. Thus, the structure of leaf nodes of a B+ tree is quite different from the structure of internal nodes of the B tree. It may be noted here that, since data pointers are present only at the leaf nodes, the leaf nodes must necessarily store all the key values along with their corresponding data pointers to the disk file block, in order to access them. Moreover, the leaf nodes are linked to providing ordered access to the records. The leaf nodes, therefore form the first level of the index, with the internal nodes forming the other levels of a multilevel index. Some of the key values of the leaf nodes also appear in the internal nodes, to simply act as a medium to control the searching of a record.