In column-oriented storage, data are stored and retrieve in columns and hence it can only able to read only the relevant data if required but in row-oriented storage, data is stored and retrieved one row at a time and hence could read unnecessary data if some of the data in a row are required. For Example,

Matt	Los Angeles	27	Dave	San Francisco	30	Tim	Oakland	33

Figure 1: row-oriented storage

Matt	Dave	Tim	Los Angeles	San Francisco	Oakland	27	30	33

Figure 2: Column-oriented Storage

Row oriented databases are fast at retrieving a row or a set of rows but when performing an aggregation, it brings extra data (columns) into memory which is slower than only selecting the columns that you are performing the aggregation on.

But in column-oriented, to get the sum of the ages the computer only needs to go to one disk (Disk 3) and sum all the values inside of it. No extra memory needs to be pulled in, and it accesses a minimal number of disks.

That’s why column-oriented storage in a database system are more suitable for analytical reporting than the row-oriented database.