1. File-based systems tend to have a lot of repeated data as this data may be used in many parts of the company, which use many different files. This would waste a lot of disk space in stored such repeated data. Hence, by using a DBMS, the repetition of data can be reduced significantly, or even eliminated altogether, hence saving a lot of space.

Additionally, when data is updated in a file-based system, data might not be updated in all the files with the change in data, hence making the data in the file-based system inconsistent. By using a DBMS, this problem can be eliminated as the data is stored once and all the tables utilising this data will be updated automatically, ensuring that the database is always up-to-date.

A change in structure in a database using a file-based system may require a considerable reprogramming effort as tailor-built programs for a file-based system may only work with a certain database structure. By using DBMS, this problem can be resolved as it handles all the changes in the database, ensuring that all programs utilising the data can still use the data.

1. A DBMS is built for the purpose of storing data, with a lot of features which are dedicated to processing and storing this data. This would be difficult to implement with an unrelated collection of files holding information on a computer system.
2. It is possible by blocking certain essential tables in the database from non-authorised personnel through protection methods such as password protection. These non-key personnel are only able to access certain parts of the database which their jobs cover, and not anywhere else, making the data in the database more secure and improving the integrity of the data.
3. While setting up a database in a large company, regular backups must take place to the actual hardware in the database, ensuring that the files remain intact even after a catastrophic error in the database. At least one backup is stored in a fire-proof safe in the building, and at least one backup must be stored off-site in another building. To prevent any corruption of data, data must be stored in ways such that it cannot be corrupted by heat or magnetic fields.  
     
   Additionally, only authorised personnel (like database administrators) are allowed to access the main computer room where disks and tapes are stored. Additionally, the main administrative terminal must always have a high level of security, and this main computer room should always be locked.  
     
   Transaction logging, where information about every database update is being stored in a separate transaction file. A before-image and after-image of any record being changed is saved so that if there is a data failure, the backup database and the separate transaction file can be used to create an up-to-date copy from the backup copy using a utility program.
4. a) A database approach is more effective than a file-based approach as it allows for data to be up-to-date at all times whenever a record is updated in a database. For a file-based system, some of the data may not be updated at a certain point in time, making the file-based approach out-of-date. However, a database approach allows for the database to be up-to-date even if the database is only updated once