ASSIGNED DATABASE TASK

Case Study: Design and develop a Database system for Software Company A software company wishes to install a database to help in the monitoring and correcting of errors that are discovered in its software products. Each software product has a product identification number and description. In addition, there may be several different versions of the product released in the field, or under development, at any time. Versions are identified by the product number and a version number and have a release date. A version of a product may it used by users, external to the organization, or internal users such as programmers or system testers. When a product is sold to an external user, each copy of the product is allocated a registration number and a date of registration. If a user encounters a problem with a product, a problem report is sent to the company's quality assurance team—problem reports submitted by internal or external users. A problem report records the name and telephone number of the person who submitted the report (name assumed to be unique) along with the date on which it was submitted—the identification of the product, version, and a description of the problem. If a problem report is submitted by an external user, the company name must be recorded. Internal users do not have a company name, but their department is recorded when submitting problem reports. When a report is received, the quality assurance team allocates a problem report number and then passes the report to the software maintenance department. They also allocate a priority rating and record the status of the report as 'with maintenance.' The maintenance department consists of a number of maintenance teams, each of which has a unique name and a team leader. Teams responsible for a number of products. Software products are maintained by a number of teams. A problem report is allocated to a specific team who updates the status as appropriate; 'fixed', 'in progress', 'not a problem'.

As part of this project you will:

1. Critically evaluate existing database technologies and suggest which will be best for Software Company
2. Design a database system using normalisation techniques and create an ERD diagram. State any assumptions that you have made and applied.
3. Develop a database system schema and implement the design system - State any assumptions that you have made and applied. o Create a set of tables and relation required for the system. o Populate your tables with Software Company data sets o Create queries and views based on every service requirement of the dataset.
4. Apply advanced database techniques (10%) - State any assumption that you have made and applied. Apply security measures – define users, assign privileges.