E Use of Language Practice

i *Match words (1-10) to their synonyms (a-j)*

1. concurrency 2. backup 3. rollback 4. logging 5. query language 6. overhead 7. iteration 8. economy of scale	**a** a proportionate saving in costs gained by an increased level of production **b** in computer science, it is generally considered any combination of excess or indirect computation time, memory, bandwidth, or other resources that are required to attain a particular goal **c** repetition of a mathematical or computational procedure applied to the result of a previous application **d** the procedure for making copies of data in case the original is lost or damaged **e** the ability of a database to allow multiple users to affect multiple transactions. **f** just a fancy word to define a process of writing down everything you do **g** the process of restoring a database or program to a previously defined state, typically to recover from an error **h** a language for the specification of procedures for the retrieval (and sometimes also modification) of information from a database

ii *Use the words from the table to complete the following sentences. Consider correct grammar use.*

1. In database technologies, a _____ is an operation which returns the database to some previous state. They are important for database integrity, because they mean that the database can be restored to a clean copy even after erroneous operations are performed.
2. All small island developing states lack the _____ to overcome their vulnerabilities on their own.
3. SXPath may be used as a _____ for an XML-based digital library.
4. _____ enables refinement of the work product through encouraging brief returns to previous steps.
5. Make a _____ of any work you do on the computer.
6. _____ is keeping a record of all data input, processes, data output, and final results in a program
7. The ability to offer _____ is unique to databases.
8. For example, maintaining an audit trail might result in 10% _____, meaning that the program will run 10% slower when the audit trail is turned on.

iii ***For questions 1-13, read the text below and choose the most appropriate word from the list (A-Q) for each gap. There are*** THREE EXTRA WORDS ***that you do not need to use. There is an example at the beginning (0).***

Skills Essential for a Database Developer or Programmer

To stay (**L**) COMPETITIVE**,** a student studying to be a database **(1)** … should strive to be **(2)** … in more than one programming language. In the not-too-distant past, it was sufficient for an **(3)** … database developer to be proficient in just database **(4)** … (i.e., SQL programming). However, to be competitive in today's market, a database developer should be **(5)** … in database programming, as well as in **(6)** … programming such as JavaScript/HTML and a specific programming language such as C/C++. Aspiring database programmers today will have to work with databases that **(7)** … almost all types of applications, and almost all **(8)** … will use databases. Students should know how to **(9)** ... databases, write **(10)** … (i.e., SQL), and do maintenance. They should also know the **(11)** … of normalization as this leads to fantastic database design. In fact, database skills are important for all **(12)** … students since most are going to **(13)** … some sort of database work in the real world, and they will want to be able to speak the language.

A computer	**E** proficient	**I** able	**M** run
B system	**F** design	**J** analysis	**N** encounter
C principles	**G** queries	**K** programming	**O** aspiring
D front-end	**H** developer	***L*** *competitive*	**P** fluent
			Q applications

iv ***Read the information about enterprise databases. Change the sentences into the active or passive ones.***

Enterprise Databases

1. If only a single user can use a database at a time it is not going to meet the needs of most organizations.
2. As they have networked computers and now join them worldwide via the Internet, a class of database has emerged that two, ten, or even a million people can access.
3. These databases are sometimes installed on a single computer to be accessed by a group of people at a single location.
4. Other times, they install them over several servers worldwide, which means millions are able to access them.
5. These relational enterprise database packages are built and supported by companies such as Oracle, Microsoft, and IBM. The open-source MySQL is also an enterprise database.
6. As stated earlier, the relational database model does not scale well.
7. The term *scale* here refers to a database getting larger and larger, being distributed on a larger number of computers connected via a network.
8. Moving away from the relational model to other, more flexible models some companies are looking to provide large-scale database solutions.
9. For example, Google now offers the App Engine Datastore, which is based on NoSQL.
10. Developers can use the App Engine Datastore to develop applications that access data from anywhere in the world.