

Databases

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Databases in everyday life

Computers and database management programs can be powerful tools to create databases, input data easily, provide useful information and print neat reports with summaries. Examples of databases in everyday life include telephone directories, phone books in cell phones and databases used in doctors rooms, video stores, and the employee database in any company. Although it is beneficial to have data easily accessible, an individual's right to privacy must be protected so that unauthorised access to databases does not compromise your privacy. It is also vitally important that the data is captured correctly and kept up to date.

Lesson Outcomes

By the end of the lesson, you should be able to:

- Define a database.
- Explain what a field and a record is
- Give examples of where databases are used in real life
- Discuss the importance of the protection of privacy and the reliability of data on a database

Curriculum Links

This task supports the assessment of:

L.O. 3: Social and Ethical Issues

- List the broad economic reasons for using computers.
- Discuss the effects of the use of computers across a range of application areas.
- Explain the responsible use, purpose and significance of any new computer developments.

Lesson notes

A database is a collection of data or information that's related to a particular subject or purpose. A telephone directory is an example of a database. In the telephone directory the fields is the initial, surname, address and telephone number of the person. A record is the name given to a group of related fields. So an example of a record in the telephone directory would be all the fields relating to one person.

Databases are used in many instances in a variety of ways:

- A cell phone also has an electronic database of names and numbers as does the address book in your e-mail program.
- The video store also keeps a database of all the videos and another for all the customers.
- Most companies also keep track of all employees to track payments to their medical aid, pension fund, unemployment insurance fund and also to do salary transfers.
- Your school also keeps a record of all your details and marks in a database.
- Doctors also keep an electronic database of patients to keep track of each patient's medical history and it can assist them with their diagnosis or prescriptions. They can also use the database to send out monthly statements.

A collection of similar data records in a database program forms a table. Each table consists of columns that represent fields and rows that represent each record.

The purpose of databases is to be able to find information easily. You can also enter data in one format, and then print reports in various other formats. Although it is beneficial to have data easily accessible, an individual's right to privacy must be protected so that unauthorised access to databases does not compromise your privacy. For example, if your HIV status and medical history is stored in a database, the database should be secure, protected by passwords and firewalls and information should not be given out without proper verification of identity. It is also vitally important that the data is captured correctly and kept up to date.

Task

1. Visit your nearest library and research the following:
 - How a record is kept of all the books, magazines, newspapers and other publications.
 - Whether it is possible to get a list of books written by a specific author or all books on a particular topic.
2. Consider whether it is beneficial to keep the database on computer or whether an index card system would be better and motivate your answer.