Module 10 Section A Database Basics

1. Operational and Analyticl Database

> An operational DB is used to collect ,modify and maintain data on a daily basi`s.

> An analytical DB is used to collect data that will be used for spotting trends that offer insights for tactical and strategic business decisions.

- Operational DB
  - Operaional DB are commonly part of an enterprise's information system.
  - They store data as it is collected from point-of-sale systems,customer loyalty programs,social media signups, and other transactions,
  - the data is typically dynamic[adj. 多变的].
- Analytical DB
  - Analytical DB commonly hold historical data copied from one or more transaction processing system.
  - Unlike an operational DB,the data in an analytical DB is not being constantly updated.Therefore,it remains relatively static.
  - Because hte data is historical,the information that con be inferred is like a snapshot of a point in time.

2.

- Desision makers con access analytical DB using an executive dashboard,provided by software wuch as iDashboards,thich users tools for visually displaying query results.
- Database Models
  - relational DB
  - non-relational DB

DBMS

Objectives

- Describe hte difference between an operational database and an anlytical database
- Draw ERD(Entity relation)
- Diagram the data structure for hierachical(层次型),graph,relational,multidimensional,and object database models(面向对象数据库).

2.Database Models

- The underlyingadj. 潜在的，下层的 structure of a databse is referred to as a DB model.

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- A field contains the smallest unit of meaningful information;it is the basic building block[构件] for a structured file or databse
- A variable-length field is like an accordion[n. 手风琴]-it expands to fit the data you enter.
- A fixed-length field contains a predetermined number of characters.
- In the world of databses,a record[n. 记录] refers to a collection of data fields;the template for a record is **record type**.译:一个记录类型的模板又被称为**记录表**.

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- In databse jargon[n. 术语],a relationship is an association between data that's sorted in different record types.
- An important aspect of the relationship between record types is cardinality,thich refers to the number of associations that can exist between two record types. 译:表与表的连接中很重要的一点是基数，它表示在两个表中的链接关系的数量。

XML(eXtensible Markup Language)is a popular tool used to for,at document databases.

Section B:

- Explain why databases designers try to avoid data dependence.

Data dependence is a term that refers to data and program modules being so tightly interrelated that they become difficult to modify. 译：数据关联是指数据模块间互相紧密的联系，以至于他们很难修改。