Sample Recorded Lecture - I

School of Computer Science and Engineering

Program Name: B.Tech

Course Code : BCSE 3055

Course Name: Enterprise Resource Planning

Name of the Faculty: Ms.Kamakshi Gupta

Objectives

Introduction to Oracle Datatypes
– Oracle provides the following categories of built-in datatypes:
– Overview of Character Datatypes
– Overview of Numeric Datatypes
– Overview of DATE Datatype
– Overview of LOB Datatypes

Learning Outcomes

Different editions of Oracle
database
Following are the four editions of the Oracle database.
– **Enterprise Edition: It is the most robust and secure edition. It offers all features,**
including superior performance and security.
– **Standard Edition: It provides the base functionality for users that do not require**
Enterprise Edition's robust package.
– **Express Edition (XE): It is the lightweight, free and limited Windows and Linux**
edition.
– **Oracle Lite: It is designed for mobile devices**

Oracle

What is Oracle
– Oracle database is a relational database management system. It is known as
Oracle database, Oracle DB or simply Oracle. It is produced and marketed by
Oracle Corporation.
– Oracle database is the first database designed for enterprise grid computing.
The enterprise grid computing provides the most flexible and cost effective way
to manage information and applications.

Overview of character datatypes

– The character datatypes store character (alphanumeric) data in strings, with byte values corresponding to the character encoding scheme, generally called a character set or code page.

– The database's character set is established when you create the database.

Examples of character sets are 7-bit ASCII (American Standard Code for Information Interchange), EBCDIC (Extended Binary Coded Decimal Interchange Code), Code Page 500, Japan Extended UNIX, and Unicode UTF-8. Oracle supports both single-byte and multibyte encoding schemes.

Char data type

CHAR Datatype

– The CHAR datatype stores fixed-length character strings. When you create a table with a CHAR column, you must specify a string length (in bytes or characters) between 1 and 2000 bytes for the CHAR column width. The default is 1 byte. Oracle then guarantees that:

- When you insert or update a row in the table, the value for the CHAR column has the fixed length.
- If you give a shorter value, then the value is blank-padded to the fixed length.
- If a value is too large, Oracle Database returns an error.

VARCHAR2 and VARCHAR

– The VARCHAR2 datatype stores variable-length character strings. When you create a
table with a VARCHAR2 column, you specify a maximum string length (in bytes or characters) between 1 and 4000 bytes for the VARCHAR2 column. For each row, Oracle Database stores each value in the column as a variable-length field unless a value exceeds the column's maximum length, in which case Oracle Database returns an error. Using VARCHAR2 and VARCHAR saves on space used by the table.

– For example, assume you declare a column VARCHAR2 with a maximum size of 50 characters. In a single-byte character set, if only 10 characters are given for the VARCHAR2 column value in a particular row, the column in the row's row piece stores only the 10 characters (10 bytes), not 50.

VARCHAR Datatype

VARCHAR Datatype

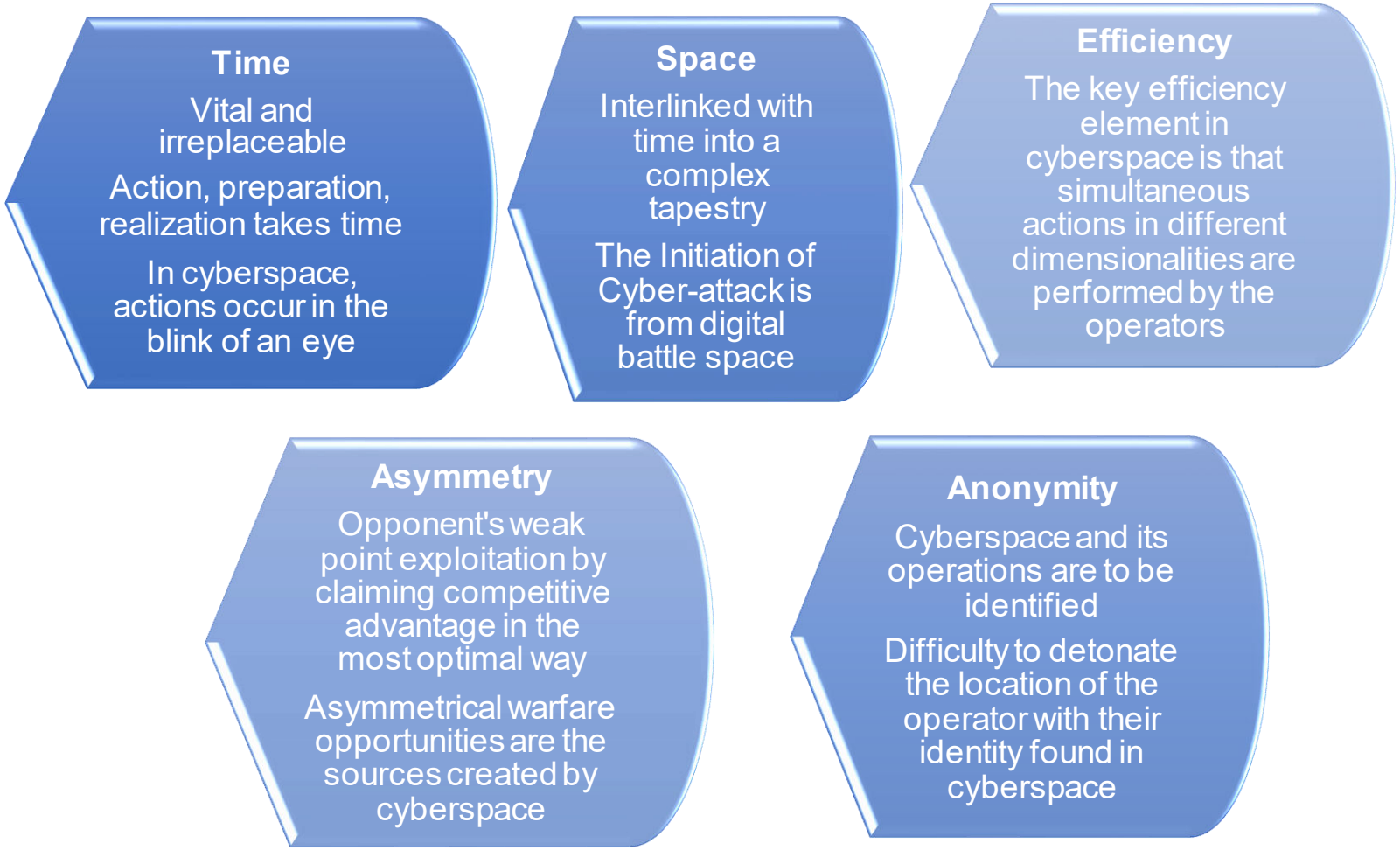
– The VARCHAR datatype is synonymous with the VARCHAR2 datatype. To avoid
possible changes in behavior, always use the VARCHAR2 datatype to store
variable-length character strings.

NCHAR and NVARCHAR2

– NCHAR and NVARCHAR2 are Unicode datatypes that store Unicode character
data. The character set of NCHAR and NVARCHAR2 datatypes can only be either
AL16UTF16 or UTF8 and is specified at database creation time as the national
character set. AL16UTF16 and UTF8 are both Unicode encoding.

- The NCHAR datatype stores fixed-length character strings that correspond to the
national character set.
- The NVARCHAR2 datatype stores variable length character strings.

Driving forces of resources



NUMBER Datatype

– The NUMBER datatype stores fixed and floating-point numbers. Numbers of
virtually any magnitude can be stored and are guaranteed portable among
different systems operating Oracle Database, up to 38 digits of precision.
– For numeric columns, you can specify the column as:
– column_name NUMBER
– Optionally, you can also specify a precision (total number of digits) and scale
(number of digits to the right of the decimal point):
– column_name NUMBER (precision,

Floating-Point Numbers

– Oracle Database provides two numeric datatypes exclusively for floating-point numbers: BINARY_FLOAT and BINARY_DOUBLE.
– This section includes the following topics:
– BINARY_FLOAT Datatype
– BINARY_DOUBLE Datatype

BINARY_FLOAT Datatype
– BINARY_FLOAT is a 32-bit, single-precision floating-point number datatype. Each BINARY_FLOAT value requires 5 bytes, including a length byte.

BINARY_DOUBLE Datatype
– BINARY_DOUBLE is a 64-bit, double-precision floating-point number datatype.
Each BINARY_DOUBLE value requires 9 bytes, including a length byte.

Overview of DATE Datatype

- The DATE datatype stores point-in-time values (dates and times) in a table.
- DATE datatype stores the year (including the century), the month, the day, the
- hours, the minutes, and the seconds (after midnight).
- For input and output of dates, the standard Oracle date format is DD-MON-YY,
- as follows:'13-NOV-92'
- You can change this default date format for an instance with the parameter
- NLS_DATE_FORMAT.
- TO_DATE ('November 13, 1992', 'MONTH DD, YYYY')

Thank
you