

August_2010

A1.

- a. False
- b. True
- c. True
- d. True
- e. True
- f. False
- g. False
- h. True
- i. False
- j. False
- k. False

A2.

- a. Primary Key

It is an attribute whose values are distinct for each individual record, such attributes known as primary key.

It is a unique attribute that will have only one value for a particular record.

- b. Foreign Key

It is an attribute in one table that points to a primary key in another table.

- c. Null

A value of null indicates that the value is unknown.

A3.

[Round to 0]

[Round to 1)

[Round to 2]

5

5.3

5.26

A4.

- ✓ Avg()
- ✓ Sum()
- ✓ Count()
- ✓ Max()
- ✓ Min()

A5.

```
SELECT Concat(Toy name, 'is' ,Price, 'dollar each', '.') AS [TOY's PRICE]
FROM TOY;
```

A6.

```
SELECT Getdate() AS TODAY
FROM TESTING;
```

Section B

B1.

- a. The two characteristics that distinguish the database approach with the file-based approach are:

- i. Insulation between program data

The definition of the database structure and constraints are stored in the database catalog not in the application program as in the file based system.

- ii. Sharing of data and multiuser system

A multiuser database system allows multiple users to access the database at the same time. The DBMS include concurrency control mechanism to ensure that users trying to update the same data to do so in a controlled manner so that the result of the update is correct.

- iii. Support multiple views of data

Multiple users in the single might have different views of the system. A view may be a subset of the database. Each view might contains only the interested data of an user.

- b. The four benefits of of using database approach as compare to using the file-based system are:

- i. Minimum data redundancy
- ii. Transaction process
- iii. Provide multiple views of data
- iv. Improve data sharing

- c.

- i. `SELECT SUM(Salary) AS [Total Salary]`
`FROM Employee;`
 - ii. `SELECT Salary+ISNULL(Commission,0) AS [Total Income]`
`FROM Employee;`

- d. The two objective of 'ORDER BY' clause are:

- ✓ It is used to sort the data in ascending or descending order, based on one or more columns.
- ✓ When TOP clause is specified, it serves to filter rows.

- e.

Error 1: 'salary' column is used. This is an error because this column 'salary' does not exist in Employee table

Error 2: '>' is used. This is an error because the statement is used to retrieve employee name with the lowest sales commission; not greater than lowest commission.

Error 3: lowest() function is used in the inner query. There is no such Lowest() function in SQL.

Error 4: A closing parentheses is missing for the inner query. The statement wouldn't execute if parentheses is missing.

B2.

- a. `SELECT DateAdd(month,6,purchase_date) AS [warranty date]
From Purchases;`
- b. `GetDate()`
- c. `SELECT Concat('Today, ', FORMAT(GetDate(), 'mmmm dd yyyy')) AS TODAY
From Dual;`
- d. `SELECT Sname
From Student_Grade
Where Marks IN (SELECT MIN(Marks)
From Student_Grade
GROUP BY Subject);`
- e. `SELECT Cname AS [Name starts with N]
From country;`

B3.**a.****i.**

```
SELECT ProductId, BrandName  
FROM Product  
WHERE Quantity>10;
```

ii.

```
SELECT BrandName, Quantity  
FROM Product  
ORDER BY Quantity DESC;
```

iii.

```
SELECT BrandName AS [Brands start with S]  
FROM Product  
WHERE BrandName LIKE 'S%';
```

b. TWO types of functions:

Single-row functions:

It is the function which work on single row function and return one output per row.

Multiple-row functions

It is the function which work upon group of rows and return one output per set of rows.

c. Single-row functions:

- ✓ LCASE()
- ✓ UCASE()
- ✓ ROUND()
- ✓ TRIM()

d. Database models:

- ✓ Relational model
- ✓ Network model
- ✓ Hierarchical model
- ✓ Object model
- ✓ Object-relationship model