



DATABASE AND WEB DESIGN

SECTION I.

01.- Database management system (DBMS) is an application software which manages database.

1/2

- It is a software package that facilitates creation, management and control of database.

- It is a tool that facilitates creation, management and control of database.

- Example: SQL Server, mysql, oracle, ...

02. The Relational Database is a type of relationships/ database model where data are stored in the form of related table.

1/2

- The Relational Database is characteristic of database structure which allows to define the relationship between their relations.

- It is a set of tables in database and its relationship.

03. Database approach

File approach


- Data independence 1/1
- Data integrity 1/1
- Data security 1/1
- No data duplication 1/1
- Data access 1/1
- Ease of access 1/1


- Data dependence 1/1
- Data duplication 1/1
- Difficult to access 1/1
- Not secured 1/1
- Data are separated and isolated 1/1

1/5

## Weak entity

## Strong entity

- 04.
- Depends on another entity /1.5
  - is not represented by its attributes alone /1.5
  - does not have sufficient attributes to form the Primary Key /1.5
  - symbol:  /1.5
  - It is a child table /1.5

- is an independent entity /1.5
- is identified by its own attributes /1.5
- has sufficient attributes to form the Primary Key /1.5
- symbol:  /1.5
- It is a child table /1.5  
Parent

Do not write in this margin

05. Alter table students DROP column department;  
1 OR 0.5 1 0.5

Alter table students DROP department;  
1 0.5 1 0.5

06.

HTTP	FTP
- stands for Hypertext Transfer Protocol /1.5	- stands for File Transfer Protocol /1.5
- allows to access the web pages from web server /1.5	- allows to transfer files between computer on network /1.5
- Port number : 80 /1.5	- Port number : 21 or 22 /1.5

07.

TAGS	DESCRIPTION
<html>	specifies the start of html document /2
<body>	Specifies the start of webpage content /1
 	is a line break /1
<!DOCTYPE--->	identifies a document type in HTML5 /1

08. These parts are : Attribute name & Attribute value

Attribute name = tag property / tag identifier /1.5

Attribute value = Characteristic of attribute name /1

e.g: bgcolor = "yellow"  
→ Attribute name. → Attribute value /2.5

09. Attributes	Functions
Align	used to set the position of object or text /1
valign	vertical alignment /1
bcolor	sets background color /1
background	Set the background image / color, -- /1
id	CSS selector /1

1/5

```

(10) <html> /1
    <head>
    <title> --- </title>
    </head>
    <body> /0.5
    <b>
    Hello <br> /0.5
    You delivered your assignment on time. <br> /0.5
    Thanks <br> /0.5
    Web instructor /0.5
    </b>
    </body> /0.5
    </html> /1
  
```

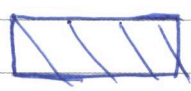

1/5

11. Web server :- Powerful computer which hosts websites /5  
 - Powerful computer which delivers a webpage /5

1/5

12. Horizontal lines are used when we need to separate the html content into horizontal lines /1  
 Corresponding tag = <hr> /1

1/2

13. a) ~~Domain~~ Entity :- is a real world object /2  
 - Table (column and rows) /2  
 Symbol:  Symbol:  /2

1/5

a) Entity Domain : is a set of allowable values of an attribute / attribute column / field /1.5

c) One to many relationship = is a type of relationship where one record of entity A is related with many records of entity B /1.5  
 e.g: one teacher teaches many students. /1.5

- It is a type of entity relationship where one entity record belongs to more than one record in another entity. /2

14. - Issue of SQL Command: A user provides SQL Statement / Command.
- SQL Syntax analysis: DBMS verifies the Statement already provided by the user
  - SQL Data manipulation: DBMS analyses the provided Command.
  - SQL output processing: DBMS retrieves results according to provided Command.

## SECTION II.

15. `<!DOCTYPE html >`  
`<html >` 0.5  
`<head >`  
`<title >` ..... `</title >`  
`</head >`  
`<body >` 0.5  
`<table border = '1' >` 0.5  
`<thead >`  
`<tr >` 0.5  
`<th > list1 </th >` 0.5  
`<th > list2 </th >` 0.5  
`<th > list3 </th >` 0.5  
`</tr >` 0.5  
`</thead >`  
`<tbody >`  
`<tr >`  
`<td > yellow </td >` 0.5  
`<td > Apple </td >` 0.5  
`<td > Table </td >` 0.5  
`</tr >`  
`<tr >`  
`<td > Blue </td >` 0.5  
`<td > Mango </td >` 0.5  
`<td > Chair </td >` 0.5

```

</tr>
<tr>
<td> Orange </td> 0.5
<td> Banana </td> 0.5
<td> desk </td> 0.5
</tbody>
</table> 0.5
</body> 0.5
</html> 0.5

```

~~OR~~

16. A) Select \* from Books;  
 B) Select BOOKID, BOOKNAME, Edition, Author, Publisheddate  
From Books; /2.5

B) Select \* from Books where Publisheddate < 2001; /2.5

C) Delete from Books where Publisheddate = 1985; /2.5

D) Update Books set Edition = 'Ed2' where BookID = 'B002';

OR  
Update Books set Edition = 'Ed2' where Bookname = 'Database';

17. Domain name is a set of characters that is used to represent a website or webpage /2

- It is a set of characters that correspond to an IP address of a given device.
- It is an address of the website /2

\* Four Country code top level domains:

- .rw /1
- .ug /1
- .bu /1
- .tz /1
- .ke /1

\* Four generic domains:

- .com /1
- .fr /1
- .org /1
- .int /1
- .gov /1
- .biz /1

18. Spam is an unwanted / unsolicited email /2

Ways to avoid Spammers:

- Do not open emails from unknown sources /2
- Install firewall /2
- Do not respond spam mail /2
- Spam filters /2
- You must have at least two email addresses. /2
- Do not use autoresponders. /2
- Do not subscribe to online links. /2

19. RULES OF JACOB NIELSEN:

- User-friendly /2
- System visibility /2
- Attractiveness /2
- Flexibility /2
- Consistency /2
- Help and documentation /2
- Error prevention /2
- Aesthetic and minimalistic /2
- Match between the system and real world. /2

### SECTION III

20. A) \* Entity: real world object /1

- any existing real world object that has characteristics

\* Entity type: set of entities that share the same definition /1

\* Entity set: these are collection of entities with the same definition and share the same attribute /1

B) \* DML (Data Manipulation Language) is an SQL Statement /1  
Component that is used for data manipulation using /2  
the following: /1

- INSERT = used to add value / save new record into a table /1
- SELECT = used to extract (all) / display data from table /1
- UPDATE = used to change / modify / update data / content /1
- DELETE = used to remove / delete records / data /1

\* DDL (Data Definition Language) is an SQL Component used to define / describe the structure of an object using the following commands: /1

- CREATE = used to create new object /1
- ALTER <sup>ADD</sup> = used to change an object /1
- DROP <sup>DROP</sup> = is used to remove / delete an object /1

C) YES / NO ;  
TRUE / FALSE ; /3  
1 / 0

Q1. A) \* ID is used to reference html element using a # symbol in css /3

\* For example: <div id="one"> </div>  
#one  
{ /3

15

\* CLASS is used to reference html element using a . symbol.

\* For example: <div class="one"> </div>  
.one { /4

B) \* SPAN: is used to merge cells in html tables /4

\* For example: <table>  
<tr>  
<td colspan="2"> </td>  
</tr>  
</table> /4

\* SPAN is used for the shortest section of element. For example, one character or finer level. /4  
e.g: <span> c </span> /4

\* DIV is an html element that is used to divide a webpage into multiple sections. /4

e.g: <div> This is one section </div>  
<div> This is second section </div> /4



Q2. A) - Schema = is the logical representation of database structure in the DBMS. /2

- It is a skeleton structure of database /2

For example:

1. myname varchar()
2. Create table mytable

B) TRUNCATE: is a command in SQL used to empty/delete/remove all contents/records at the same records. /

While

DELETE: is used for removing/deleting some records. /2

C) 1) - Select ID.No from Students where NAME = "MOSES"; /3  
- Select ID.No from Students where OPTION = "CSM"; /3

2) - select Count(\*) from Student; /3  
- Select Count(NAME) from Student; /3

3) Select Ucase(NAME) from Student; /3

— END —