

# WebApp - Questions

## Quiz Primo Appello - 20th June 2018

1. What is a recursive relationship in the ER model?
  - (a) It is a relationships where at least one entity participates more than once
  - (b) It is a relationship between an entity and itself
  - (c) It is a relationships where only one entity participates more than once
  - (d) It is a relationship nested with another relationship
2. What is HTTP/2 server push?
  - (a) **The server can push additional resources to the client without the client having to request for each of them**
  - (b) The server can store session information in a dedicated storage on the client
  - (c) The client can push multiple requests to the server in parallel without waiting for the responses
  - (d) The client can store multiple contents in a server-side cache
3. What is the purpose of the application logic layer?
  - (a) To define the format and visualisation of information
  - (b) To manage the persistent storage of the data
  - (c) **To define and control the flow of operations in the application**
  - (d) To manage the interaction with the user
4. The JavaScript ForEach() method:
  - (a) Iterates through an array of objects, providing access to the object properties.
  - (b) **Iterates through an array, invoking a function you specify for each element.**
  - (c) Iterates through an object, invoking a function you specify for each property.
  - (d) It is a simple iterator on the array elements.
5. What is a one-to-one relationship in the ER model?
  - (a) A relationship where each instance of an entity is associated with one or more instances of another entity
  - (b) A relationship where each instance of an entity is associated with one and only one instance of another entity
  - (c) A relationship where one or more instances of an entity are associated with one or more instances of another entity
  - (d) A recursive relationship where only one entity takes part
6. What is an external identifier in the ER model?

- (a) It is an identifier constituted only by attributes of other entities in relationship with a given entity
  - (b) It is an identifier constituted only by attributes of a single entity
  - (c) It is an identifier which is managed outside from the database
  - (d) It is an identifier constituted by attributes of a given entity and also those of other entities in relationship with that entity
7. What is a descriptive markup language?
- (a) It refers to entities external to the document
  - (b) It provides the means for extending the vocabulary of the language
  - (c) It contains commands to format and layout the content
  - (d) **It defines the type or class of the content to indicate its intended use**
8. What does the following element represent?
- ```
%<a src="http://www.example.com/index.html#bottom">
```
- (a) A link to a specific page fragment
  - (b) A link to an element on the same page
  - (c) **None of the other answers**
  - (d) A link to a specific web page
9. Suppose you need to create a foreign key towards the following table

```
CREATE TABLE Example (
i INT,
j INT,
PRIMARY KEY (i, j)
);
```

Which statement is correct?

- (a) CREATE TABLE Example2 (
a INT PRIMARY KEY,
i INT,
j INT,
FOREIGN KEY (i, j) REFERENCES Example(i, j)
);
- (b) CREATE TABLE Example2 (
a INT PRIMARY KEY,
i INT REFERENCES Example(i),
j INT REFERENCES Example(j)
);
- (c) CREATE TABLE Example2 (
a INT PRIMARY KEY,
i INT,
j INT,
FOREIGN KEY (i) REFERENCES Example(i),
FOREIGN KEY (j) REFERENCES Example(j) );

- (d) `CREATE TABLE Example2 (  
a INT PRIMARY KEY,  
i, j INT REFERENCES Example(i, j)  
);`
10. What is Maven?
- (a) It is a site and documentation tool
  - (b) **It is a tool for managing the build process of Java software projects**
  - (c) It is a continuous integration framework
  - (d) It is a tool for managing the cooperative development of source code
11. What is the dark Web?
- (a) It is the Web of static pages
  - (b) **It is the Web ensuring anonymity**
  - (c) It is the Web originated from databases
  - (d) It is the not indexable Web
12. What is the percent encoding?
- (a) A way to represent binary data in textual HTTP requests
  - (b) The UTF-8 encoding of characters
  - (c) A compression encoding for textual resources
  - (d) **An escaping of reserved and not plain ASCII characters in URI, based on % plus hexadecimal representation of octets**
13. What does IDEMPOTENT HTTP method mean?
- (a) It is a method which prevents the automatic repetition of the same request
  - (b) It is a method whose multiple invocations produce different effects
  - (c) It is a method which cannot be cached
  - (d) **It is a method whose multiple invocations produce the same effect as a single one**
14. What is the typical implementation of the MVC pattern using Java technologies?
- (a) JavaBeans are the model, servlets are the View, and JSP are the Controller
  - (b) Servlets are the model, JSP are the View, and JavaBeans are the Controller
  - (c) JSP are the model, JavaBeans are the View, and servlets are the Controller
  - (d) **JavaBeans are the model, JSP are the View, and servlets are the Controller**
15. What is the hypertext design?
- (a) **It specifies the site views to be constructed on top of the data schema to realize the content publishing and manipulation services**

- (b) It specifies the appearance of the Web site by means of physical structures, dependent on the DBMS structure
- (c) It is a representation of the mini-world by means of the physical schema and mockups, according to the customer's requirements
- (d) It is a representation of the mini-world by means of a high-level site view models, integrating all the relevant concepts and independent from the DBMS

16. Suppose you have the following table

```
CREATE TABLE Example (
taskID INT,
description VAR- CHAR(64),
supertask INT,
PRIMARY KEY (taskID),
FOREIGN KEY (supertask)
REFERENCES Example(taskID));
```

containing the following data

| TaskID | Description | Supertask |
|--------|-------------|-----------|
| 1011   | Task 11     | 4512      |
| 12     | Task 12     | 3713      |
| 13     | Task 13     | 2929      |
| 2937   | Task 37     | 1045      |
| 45     | Task 45     | 10101     |
| 101    | Task 101    | 37194     |
| 194    | Task 194    | 29        |

and that you need to determine how many sub-tasks there are for each task. Which statement is correct?

- (a) SELECT supertask,  
COUNT(\*) AS subtasks FROM Example  
GROUP BY supertask;
- (b) SELECT taskID,  
COUNT(\*) AS subtasks FROM Example  
GROUP BY supertask;
- (c) SELECT supertask,  
COUNT(\*) AS subtasks FROM Example  
WHERE supertask IS NOT NULL  
GROUP BY supertask;
- (d) SELECT taskID,  
COUNT(\*) AS subtasks FROM Example  
GROUP BY taskID;

17. What is an RDF triple?

- (a) **It is a statement of the form subject, predicate, object**
- (b) It is a relationship among rows belonging to three different tables
- (c) It is the way to connect HTTP, AJAX, and REST
- (d) It is a mechanism to encode information in a more secure way

18. What is a relationship in the ER model?

- (a) It is a class of objects of the real world which exist autonomously
- (b) It is a local property of some objects relevant for the application
- (c) It is a container of connections

- (d) It is an association among two or more entities
19. What is the effect of position: float?
- (a) It removes an element from the normal flow and places it in the first available slot
  - (b) It moves an element as far as possible to the left or right
  - (c) It removes an element from the normal flow and it is used to place elements side by side
  - (d) **Nothing, the syntax is not correct**
20. What is the jQuery method which corresponds to the JavaScript load event on the Window object?
- (a) **ready()**
  - (b) load()
  - (c) documentLoad()
  - (d) documentReady()
21. How are different parts separated in a MIME multipart content?
- (a) There is a blank line separating each part
  - (b) **There is an arbitrary sequence of characters, not appearing in any part, used as a boundary**
  - (c) There is a random boundary which is the same for each part and it is prefixed by –
  - (d) There is a random boundary which changes for each part and it is prefixed by –
22. Which elements are selected by the following CSS selector?
- ```
p a {  
  ...  
}
```
- (a) Any <p> element which has an <a> element inside
  - (b) Only <a> elements that are direct children of a <p> element
  - (c) **Any <a> element inside a <p> element**
  - (d) Any <p> element that has at least one <a> element as direct child
23. What data type is most appropriate for representing a telephone number?
- (a) INT
  - (b) **VARCHAR(11)**
  - (c) BIGINT
  - (d) CHAR(11)
24. What is a foreign key in the relational model?

- (a) It is a set of one or more attributes of a relation which refer to a primary key of another table in order to link tuples
- (b) It is the primary key of the table when using foreign data wrappers
- (c) It is a single attribute of a relation whose value is unique for each tuple of the relation
- (d) It is a set of one or more attributes of a relation whose values are unique for each tuple of the relation

## Quiz Simulazione - 17/18

1. What is a Java servlet?
  - (a) **It is a server-side technology which generates dynamic Web content**
  - (b) It is a server-side technology which cannot provide static Web content
  - (c) It is a client-side technology which generates dynamic Web content
  - (d) It is a client-side technology which loads dynamic Web content
2. What data type is most appropriate for representing a ZIP code?
  - (a) CHAR(5)
  - (b) SMALLINT
  - (c) INT
  - (d) **VARCHAR(5)**
3. What does the Content-Encoding HTTP response header do?
  - (a) It contains information about the software used by the origin server
  - (b) **It indicates how the response has been compressed**
  - (c) It specifies the MIME media type of the associated resource
  - (d) It specifies response MIME media types which are acceptable
4. What is the purpose of the HTTP DELETE request method in REST?
  - (a) To read a resource
  - (b) To create a resource
  - (c) To update a resource
  - (d) **To delete a resource**
5. How do you specify a paragraph box with top padding of 10 px, bottom padding of 20 px, left padding of 1 px, and right padding of 5px?
  - (a) padding: 10px 1px 20px 5px;
  - (b) **padding: 10px 5px 20px 1px;**
  - (c) padding: 5px 20px 1px 10px;
  - (d) padding: 10px 20px 1px 5px;

6. Which of the following sentences are correct?
- (a) **Top and bottom margins do not affect inline text elements**
  - (b) Only positive values are admissible for the margin property
  - (c) The value of the margin property is inherited by child elements
  - (d) The top and bottom margins of neighboring elements collapse
7. What is the correct jQuery code to set the color of all p elements to red?
- (a) `$("p").attr("color","red");`
  - (b) `$("p").style("color","red");`
  - (c) `$("p").style("text-color","red");`
  - (d) `$("p").css("color","red");`
8. Which of the following are JavaScript primitive types?
- (a) Byte
  - (b) **Boolean**
  - (c) **Null**
  - (d) **String**
9. What is an URI?
- (a) It is the format of a resource
  - (b) **It is a sequence of character which uniquely identifies a resource**
  - (c) It is a standard to support the encoding of resources
  - (d) It is a generic and abstract identification mechanism
10. What does the HTTP POST method do?
- (a) It retrieves the resource identified by a URI
  - (b) **It request the server to accept the entity enclosed in the request under the resource identified by a URI**
  - (c) Represents a request for information about the resource identified by a URI
  - (d) It requests that the resource identified by a URI is updated by the enclosed entity
11. What does it mean that SQL is a declarative language?
- (a) It means that you can declare variables
  - (b) It means that you express what you need and the actual sequence of operations needed to produce it
  - (c) It means that you can express functional dependencies among instructions
  - (d) It means that you express what you need but not the actual sequence of operations needed to produce it
12. What is MIME?

- (a) A way to encode Unicode characters
  - (b) A way to authenticating resources on the Web
  - (c) **An Internet standard to support the encoding of information for email and the Web**
  - (d) An encoding for escaping reserved and not plain ASCII characters in URI
13. Suppose you need to create a table with a primary key constituted by a pair of columns. Which statement is correct?
- (a) CREATE TABLE Example (  
i INT,  
j INT,  
PRIMARY KEY (i),  
PRIMARY KEY (j)  
);
  - (b) CREATE TABLE Example (  
i INT PRIMARY KEY,  
j INT PRIMARY KEY  
);
  - (c) CREATE TABLE Example (  
i INT,  
j INT,  
PRIMARY KEY (i, j)  
);
  - (d) CREATE TABLE Example (  
i, j INT PRIMARY KEY  
);
14. What is an entity in the ER model?
- (a) It is a connection among two or more objects
  - (b) It is a class of objects of the real world which exist autonomously
  - (c) It is a container of records
  - (d) It is a local property of some objects relevant for the application
15. What is a primary key in the relational model?
- (a) It is a set of one or more attributes of a relation used to link rows to rows of another relation
  - (b) It is the most important attribute of a relation
  - (c) It is a set of one or more attributes of a relation whose values are unique for each tuple of the relation
  - (d) It is a single attribute of a relation whose value is unique for each tuple of the relation
16. What is a Web Application Architecture?
- (a) It is a case of single-tier architecture



- (b) It is a case of two-tiers architecture
- (c) **It is a case of three-tiers architecture**
- (d) It is a fat client/thin server architecture

17. Suppose you have the following table

```
CREATE TABLE Example (
taskID INT,
description VAR- CHAR(64),
supertask INT,
PRIMARY KEY (taskID),
FOREIGN KEY (supertask)
REFERENCES Ex ample(taskID));
```

containing the following data

TaskID	Description	Supertask
10	Task 10	11
11	Task 11	12
12	Task 12	13
13	Task 13	29
29	Task 29	37
37	Task 37	1045
1045	Task 45	10101
10101	Task 101	37194
37194	Task 194	29

and that you need to determine which are the root tasks. Which statement is correct?

- (a) SELECT taskID  
FROM Example  
WHERE supertask IS NULL;
- (b) SELECT taskID  
FROM Example  
WHERE supertask = NULL;
- (c) SELECT taskID  
FROM Example  
WHERE supertask IS NOT NULL;
- (d) SELECT taskID  
FROM Example  
WHERE supertask <> NULL;

18. What are the main features of the DOM API?

- (a) It provides a bi-directional access to the XML tree
- (b) It provides an unidirectional access (forward only) to the XML tree
- (c) It is a streaming push API
- (d) **It creates an in-memory representation of XML tree**

19. Which of the following are HTML block elements?

- (a) <li>
- (b) <img>
- (c) <p>
- (d) <a>

20. What did Vannevar Bush proposed?

- (a) The first browser

- (b) The term hypertext
  - (c) The Xanadu project
  - (d) **The Memex**
21. What is the WebML Hypertext Model?
- (a) It is a methodology for hypertext design which follows the style of both, Entity-Relationship and UML offering a proprietary notation and a graphical representation
  - (b) It is a methodology for hypertext design which is based on a UML profile for the hypermedia domain
  - (c) It is a methodology for hypertext design which is based on a precise OMT model that characterizes the different notation elements and the relationships between them
  - (d) It is a methodology for hypertext design which uses the user interaction diagrams (UIDs) to graphically model the interaction between the users and the system
22. Which of the following are popular techniques used for requirements validation?
- (a) Prototyping
  - (b) Checklist
  - (c) Interview
  - (d) Formal description
23. How is an entity represented in the ER model?
- (a) By means of a rhombus with a unique name inside
  - (b) By means of a rectangle with a unique name inside
  - (c) By means of a rectangle with a name inside
  - (d) By means of a rhombus with a name inside
24. What is a cardinality constraint in the ER model?
- (a) A bound to the number of instances of a relationship to which each instance of an entity can participate
  - (b) A bound to the number of entities which can participate to a relationship
  - (c) A bound to the number of instances of an entity which have the same value for an attribute
  - (d) A bound to the number of values which can be associated to an attribute
25. What does SAFE HTTP method mean?
- (a) It is a method with side effects, i.e. read-only
  - (b) It is a method without side effects, i.e. read-write
  - (c) It is a method with side effects, i.e. read-write
  - (d) **It is a method without side effects, i.e. read-only**
- 26.

## Quiz Terzo Appello - 17th September 2018

1. Suppose you have the following table

```
CREATE TABLE Example (  
  taskID INT,  
  description VAR- CHAR(64),  
  supertask INT,  
  PRIMARY KEY (taskID),  
  FOREIGN KEY (supertask)  
  REFERENCES Example(taskID)  
);
```

containing the following data

TaskID	Description	Supertask
10	Task 1011	Task 11
45	Task 12	37
13	Task 13	29
29	Task 29	37
37	Task 37	10
45	Task 45	10
101	Task 101	101
194	Task 194	29

and that you need to determine which are the root tasks. Which statement is correct?

- (a) 

```
SELECT taskID  
FROM Example  
WHERE supertask IS NOT NULL;
```
  - (b) 

```
SELECT taskID  
FROM Example  
WHERE supertask = NULL;
```
  - (c) 

```
SELECT taskID  
FROM Example  
WHERE supertask IS NULL;
```
  - (d) 

```
SELECT taskID  
FROM Example  
WHERE supertask <> NULL;
```
2. What is a foreign key in the relational model?
- (a) It is a set of one or more attributes of a relation whose values are unique for each tuple of the relation
  - (b) It is the primary key of the table when using foreign data wrappers
  - (c) It is a set of one or more attributes of a relation which refer to a primary key of another table in order to link tuples
  - (d) It is a single attribute of a relation whose value is unique for each tuple of the relation
3. A RDF predicate can be
- (a) A function call
  - (b) An HTTP request method
  - (c) **An URI**
  - (d) A literal
4. JavaScript arrays:

- (a) Can have elements of any type, the type and the array length should be declared.
  - (b) Can have elements of any type, but different elements of the same array can not be of different types.
  - (c) **Can have elements of any type, and different elements of the same array may be of different types.**
  - (d) Can have elements of any type except of objects, and different elements of the same array may be of different types.
5. How can you attach an external CSS to your HTML document?
- (a) Insert the following element in the <head> element  
`<link rel="stylesheet" type="text/css" src="mystyle.css">`
  - (b) Insert the following element in the <heading> element  
`<link rel="stylesheet" type="text/css" src="mystyle.css">`
  - (c) Insert the following element at the beginning of the <body> element  
`<link rel="stylesheet" type="text/css" href="mystyle.css">`
  - (d) **Insert the following element in the <head> element**  
`<link rel="stylesheet" type="text/css" href="mystyle.css">`
6. Is it a good practice to use the <h1> element whenever you need a large font?
- (a) No, since the browser does not display more than one <h1> element on the same page
  - (b) Yes, since the resulting page will be responsive, indeed on every device the content of the <h1> element will have a bigger font
  - (c) Yes, since we will be sure that each browser will display the content of the <h1> element with a bigger font
  - (d) **No, since by doing it we violate the semantic meaning associated to the <h1> element**
7. Suppose you need to create a foreign key towards the following table

```
CREATE TABLE Example (
i INT,
j INT,
PRIMARY KEY (i, j)
);
```

Which statement is correct?

- (a) CREATE TABLE Example2 (
a INT PRIMARY KEY,
i, j INT REFERENCES Example(i, j)
);
- (b) CREATE TABLE Example2 (
a INT PRIMARY KEY,
i INT REFERENCES Example(i),

```
j INT REFERENCES Example(j)
);
```

- (c) CREATE TABLE Example2 (  
a INT PRIMARY KEY,  
i INT,  
j INT,  
FOREIGN KEY (i) REFERENCES Example(i),  
FOREIGN KEY (j) REFERENCES Example(j)  
);
- (d) CREATE TABLE Example2 (  
a INT PRIMARY KEY,  
i INT,  
j INT,  
FOREIGN KEY (i, j) REFERENCES Example(i, j)  
);

8. What is a recursive relationship in the ER model?

- (a) It is a relationships where at least one entity participates more than once
- (b) It is a relationships where only one entity participates more than once
- (c) It is a relationship between an entity and itself
- (d) It is a relationship nested with another relationship

9. What is the percent encoding?

- (a) A compression encoding for textual resources
- (b) The UTF-8 encoding of characters
- (c) **An escaping of reserved and not plain ASCII characters in URI, based on % plus hexadecimal representation of octets**
- (d) A way to represent binary data in textual HTTP requests

10. What is UTF-8?

- (a) A control character for line printers
- (b) An encoding of binary data over textual data
- (c) **A compact encoding of Unicode characters**
- (d) A subset of the extend ASCII character set

11. Who did invent the Web?

- (a) Ted Nelson
- (b) Nicola Pellow
- (c) **Tim Berners-Lee**
- (d) Vannevar Bush

12. What data type is most appropriate for portably representing a specific instant in time?

- (a) TIME WITH TIMEZONE
  - (b) TIMESTAMP WITHOUT TIMEZONE
  - (c) TIMESTAMP WITH TIMEZONE
  - (d) TIME WITHOUT TIMEZONE
13. What is a procedural markup language?
- (a) **It contains commands to format and layout the content**
  - (b) It defines the type or class of the content to indicate its intended use
  - (c) It refers to entities external to the document
  - (d) It provides the means for extending the vocabulary of the language
14. How do you specify the background color and opacity of a paragraph with CSS3?
- (a) **background-color: rgb(0,0,0); opacity: 0.5;**
  - (b) background-color: rgba(0,0,0,0.5);
  - (c) background-color: rgb(0,0,0,0.5);
  - (d) background: rgb(0,0,0); opacity: 0.5;
15. What is an HTTP/2 message?
- (a) It is an exchange of binary-encoded frames
  - (b) It is a bidirectional flow of byte within a connection which may carry one or messages
  - (c) **It is a complete sequence of frames which map to a logical request or response**
  - (d) It is the smallest unit of communication, containing also an header
16. Suppose you need to create a table with a primary key constituted by a pair of columns. Which statement is correct?
- (a) CREATE TABLE Example (  
i INT PRIMARY KEY,  
j INT PRIMARY KEY  
);
  - (b) CREATE TABLE Example (  
i INT,  
j INT,  
PRIMARY KEY (i, j)  
);
  - (c) CREATE TABLE Example (  
i, j INT PRIMARY KEY  
);
  - (d) CREATE TABLE Example (  
i INT,  
j INT,  
PRIMARY KEY (i),  
PRIMARY KEY (j)  
);

17. When programming with JavaScript you have to:
- (a) **Pay attention to lower and upper case letters since the language is case sensitive.**
  - (b) Use the semicolon at the end of each statement.
  - (c) Declare the type of each variable.
  - (d) Perform garbage collection for memory management.
18. What is a Java servlet?
- (a) **It is a server-side technology which generates dynamic Web content**
  - (b) It is a client-side technology which loads dynamic Web content
  - (c) It is a client-side technology which generates dynamic Web content
  - (d) It is a server-side technology which cannot provide static Web content
19. What is an identifier in the ER model?
- (a) It is only one attribute of an entity whose value is unique for each instance of that entity
  - (b) It is a set of one or more attributes of an entity whose values are unique for each instance of that entity
  - (c) It is only one attribute of a relationship whose value is unique for each instance of that relationship
  - (d) It is a set of one or more attributes of a relationship whose values are unique for each instance of that relationship
20. What is Maven?
- (a) It is a continuous integration framework
  - (b) It is a tool for managing the cooperative development of source code
  - (c) It is a site and documentation tool
  - (d) **It is a tool for managing the build process of Java software projects**
21. What is one of the goals of distributed applications?
- (a) To increase the complexity of the application
  - (b) To hamper interoperability
  - (c) **To distribute the computational load of the data, application, and presentation logic on different machines**
  - (d) To decrease the complexity of the application
22. What does it mean that SQL is a declarative language?
- (a) It means that you can declare variables
  - (b) It means that you express what you need but not the actual sequence of operations needed to produce it
  - (c) It means that you can express functional dependencies among instructions

- (d) It means that you express what you need and the actual sequence of operations needed to produce it
23. What is a session/transient HTTP cookie?
- (a) It is limited to encrypted transmissions
  - (b) It stores information which lasts also after the end of a session
  - (c) It belongs to a domain different from the one shown in the address bar
  - (d) **It stores information which is deleted at the end of a session**
24. What is Git?
- (a) It is a continuous integration framework
  - (b) It is a site and documentation tool
  - (c) It is a tool for managing the build process of Java software projects
  - (d) **It is a tool for managing the cooperative development of source code**

## Quiz Preappello - 20th January 2019

1. How do you group the following selectors: h1, h2, p?
- (a) h1 h2 p ...
  - (b) **h1, h2, p ...**
  - (c) h1: h2: p ...
  - (d) h1; h2; p ...
2. What is Git?
- (a) It is a tool for managing the build process of Java software projects
  - (b) It is a site and documentation tool
  - (c) It is a tool for managing the cooperative development of source code
  - (d) It is a continuous integration framework
3. What is the purpose of the <head> element?
- (a) It is contained in the body element and specifies general information about the page
  - (b) It can contain only the title of the page
  - (c) It contains the main heading of the page and the navigation bar
  - (d) **It contains information about the page, as the title element and the meta elements**
4. What are the issues of extended ASCII?
- (a) **Compatibility issues among different countries**
  - (b) Waste of space issues due to many unused characters



- (c) Compatibility issues with the previous 7 bits version of ASCII
- (d) Compatibility issues with the previous 32 bits version of Unicode

5. Which of the following is a CSS id selector?

- (a) **#id ...**
- (b) .id ...
- (c) :id ...
- (d) id

6. Suppose you have the following table

```
CREATE TABLE Example (
taskID INT,
description VAR- CHAR(64),
supertask INT,
PRIMARY KEY (taskID),
FOREIGN KEY (supertask)
REFERENCES Example(taskID));
```

containing the following data

TaskID	Description	Supertask
10	Task 1011	Task 11
4512	Task 12	Task 13
3713	Task 13	Task 29
2929	Task 29	Task 37
2937	Task 37	Task 1045
371045	Task 45	Task 101
10101	Task 101	Task 194
37194	Task 194	Task 29

and that you need to determine which tasks have more than one sub-task. Which statement is correct?

- (a) SELECT supertask,  
COUNT(\*) AS subtasks FROM Example  
GROUP BY supertask  
HAVING COUNT(\*) > 1;
- (b) SELECT supertask,  
COUNT(\*) AS subtasks  
FROM Example  
WHERE COUNT(\*) > 1  
GROUP BY supertask;
- (c) SELECT supertask,  
COUNT(\*) AS subtasks  
FROM Example  
WHERE supertask IS NOT NULL AND COUNT(\*) > 1 GROUP BY supertask;
- (d) SELECT supertask,  
COUNT(\*) AS subtasks  
FROM Example  
WHERE supertask IS NOT NULL  
GROUP BY supertask  
HAVING COUNT(\*) > 1;

7. Suppose you need to check that a laude is given only if the mark is 30. Which statement is correct?

- (a) CREATE TABLE Example (  
studentID INT,  
courseID INT,  
mark INT CHECK(mark >= 18 AND mark <= 30),  
laude BOOLEAN,  
PRIMARY KEY (studentID, courseID),  
CHECK (mark = 30 OR NOT laude = TRUE)  
);
- (b) CREATE TABLE Example (  
studentID INT,  
courseID INT,  
mark INT CHECK(mark >= 18 AND mark <= 30),  
laude BOOLEAN,  
PRIMARY KEY (studentID, courseID),  
CHECK (mark = 30 AND laude = TRUE)  
);
- (c) CREATE TABLE Example (  
studentID INT,  
courseID INT,  
mark INT CHECK(mark >= 18 AND mark <= 30),  
laude BOOLEAN,  
PRIMARY KEY (studentID, courseID),  
CHECK (mark = 30 AND NOT laude = TRUE)  
);
- (d) CREATE TABLE Example (  
studentID INT,  
courseID INT,  
mark INT CHECK(mark >= 18 AND mark <= 30),  
laude BOOLEAN,  
PRIMARY KEY (studentID, courseID),  
CHECK (mark = 30 OR laude = TRUE)  
);

8. Suppose you need to create a foreign key towards the following table

```
CREATE TABLE Example (  
i INT,  
j INT,  
PRIMARY KEY (i, j)  
);
```

Which statement is correct?

- (a) CREATE TABLE Example2 (  
a INT PRIMARY KEY,  
i INT,  
j INT,  
FOREIGN KEY (i, j) REFERENCES Example(i, j)  
);

- (b) `CREATE TABLE Example2 (
 a INT PRIMARY KEY,
 i, j INT REFERENCES Example(i, j)
);`
- (c) `CREATE TABLE Example2 (
 a INT PRIMARY KEY,
 i INT,
 j INT,
 FOREIGN KEY (i) REFERENCES Example(i),
 FOREIGN KEY (j) REFERENCES Example(j)
);`
- (d) `CREATE TABLE Example2 (
 a INT PRIMARY KEY,
 i INT REFERENCES Example(i),
 j INT REFERENCES Example(j)
);`

9. What is the percent encoding?

- (a) **An escaping of reserved and not plain ASCII characters in URI, based on % plus hexadecimal representation of octets**
- (b) The UTF-8 encoding of characters
- (c) A way to represent binary data in textual HTTP requests
- (d) A compression encoding for textual resources

10. How does the JSP technology work?

- (a) **A pre-processor translates a JSP into a servlet and then the servlet processes the request**
- (b) The JSP page directly returns the response to the client, after processing the request
- (c) The JSP is executed by an interpreter, like PHP, and processes the request
- (d) The JSP page forwards the request to a servlet which processes it

11. What is the semantic Web?

- (a) It is a new type of Web applications where users can express themselves using the natural language semantics
- (b) **It is the Web of data where resources are connected by means of typed links**
- (c) It is the evolution of the Web where contents are more meaningful to human beings
- (d) It is the evolution of the Web where the contents of an HTML page are clearly described

12. What does it mean that SQL is a declarative language?

- (a) It means that you can declare variables

- (b) It means that you express what you need but not the actual sequence of operations needed to produce it
  - (c) It means that you can express functional dependencies among instructions
  - (d) It means that you express what you need and the actual sequence of operations needed to produce it
13. What is a WebML non-contextual link?
- (a) It is a link which does not transport information
  - (b) **It is a link between two different units on the same page**
  - (c) It is a link which transport information
  - (d) It is a link between two different pages
14. Who did invent the memex?
- (a) **Vannevar Bush**
  - (b) Tim Berners-Lee
  - (c) Douglas Engelbart
  - (d) Ted Nelson
15. What is the purpose of the JavaScript confirm() method?
- (a) **It displays a message, waits for the user to click an OK or Cancel button and returns a boolean value.**
  - (b) It display a message to the user and write the corresponding console log.
  - (c) It displays a message, waits for the user to enter a string, and returns that string.
  - (d) It displays a message to the user and waits for the user to dismiss the dialog.
16. What is a relationship in the ER model?
- (a) It is a container of connections
  - (b) It is a class of objects of the real world which exist autonomously
  - (c) It is a local property of some objects relevant for the application
  - (d) It is an association among two or more entities
17. What data type is most appropriate for portably representing a specific instant in time?
- (a) TIME WITHOUT TIMEZONE
  - (b) TIMESTAMP WITH TIMEZONE
  - (c) TIMESTAMP WITHOUT TIMEZONE
  - (d) TIME WITH TIMEZONE
18. What is an HTTP/2 frame?
- (a) It is a bidirectional flow of byte within a connection which may carry one or messages

- (b) **It is the smallest unit of communication, containing also an header**
  - (c) It is a complete sequence of frames which map to a logical request or response
  - (d) It is an exchange of binary-encoded messages
19. What is XML?
- (a) It is an extension of HTML
  - (b) **It is a markup language for representing and exchanging semi-structured information**
  - (c) It is an implementation of WebML
  - (d) It is an extension of SGML
20. JavaScript objects:
- (a) Are static utility methods.
  - (b) Are a collection of values.
  - (c) Have only a fixed number of properties defined in advance.
  - (d) **Are represented as associative arrays.**
21. Suppose you need to create a table with a primary key constituted by a pair of columns. Which statement is correct?
- (a) CREATE TABLE Example (  
i, j INT PRIMARY KEY  
);
  - (b) CREATE TABLE Example (  
i INT PRIMARY KEY,  
j INT PRIMARY KEY  
);
  - (c) CREATE TABLE Example (  
i INT,  
j INT,  
PRIMARY KEY (i),  
PRIMARY KEY (j)  
);
  - (d) CREATE TABLE Example (  
i INT,  
j INT,  
PRIMARY KEY (i, j)  
);
22. Suppose you have the following table
- ```
CREATE TABLE Example (  
taskID INT,  
description VAR- CHAR(64),  
supertask INT,  
PRIMARY KEY (taskID),
```

```

FOREIGN KEY (supertask)
REFERENCES Example(taskID)
);

```

containing the following data

| TaskID   | Description | Supertask |
|----------|-------------|-----------|
| 1011     | Task 11     | 10        |
| 114512   | Task 12     | 11        |
| 133713   | Task 13     | 13        |
| 292929   | Task 29     | 29        |
| 371045   | Task 37     | 10        |
| 4510101  | Task 45     | 10        |
| 10137194 | Task 101    | 10        |
| 29194    | Task 29     | 29        |

and that you need to determine which are the root tasks. Which statement is correct?

- (a) `SELECT taskID  
FROM Example  
WHERE supertask = NULL;`
  - (b) `SELECT taskID  
FROM Example  
WHERE supertask IS NOT NULL;`
  - (c) `SELECT taskID  
FROM Example  
WHERE supertask <> NULL;`
  - (d) `SELECT taskID  
FROM Example  
WHERE supertask IS NULL;`
23. What are the disadvantages of a three-tiers architecture?
- (a) Management of the terminals
  - (b) Scalability
  - (c) **Difficulty of implementation**
  - (d) Possibility to balance the load
24. What does SAFE HTTP method mean?
- (a) It is a method with side effects, i.e. read-only
  - (b) It is a method without side effects, i.e. read-write
  - (c) It is a method with side effects, i.e. read-write
  - (d) **It is a method without side effects, i.e. read-only**

## Quiz Simulazione - 20/21

1. What is a Web service?
  - (a) **A Web service is a software system designed to support interoperable machine-to-machine interaction over a network, exploiting standard Web technologies**
  - (b) A Web service is a design pattern for Web application, allowing for distributed transaction processing

- (c) A Web service is an AJAX-based application which allows for the mash-up of different APIs into a rich client interface
  - (d) A Web service is a web container, like Apache Tomcat, to run Web applications
2. What is a Text Node in XML?
- (a) It is a logical grouping of the information represented by its descendant
  - (b) **It is a fragment of unstructured information**
  - (c) It is a fragment of textual content ignored in the processing
  - (d) It represent the additional properties of an element
3. What is a Web Application Architecture?
- (a) It is a case of single-tier architecture
  - (b) It is a case of two-tiers architecture
  - (c) **It is a case of three-tiers architecture**
  - (d) It is a fat client/thin server architecture
4. What is AJAX?
- (a) It is a technology to define the presentation of a Web page
  - (b) It is a server-side technology to programmatically issue HTTP requests
  - (c) **It is a client-side technology to programmatically issue HTTP requests**
  - (d) It is a technology to define the structure of a Web page
5. What are the main features of the DOM API?
- (a) It provides a bi-directional access to the XML tree
  - (b) It provides an unidirectional access (forward only) to the XML tree
  - (c) It is a streaming push API
  - (d) **It creates an in-memory representation of XML tree**
6. What does the HTTP POST method do?
- (a) It retrieves the resource identified by a URI
  - (b) **It request the server to accept the entity enclosed in the request under the resource identified by a URI**
  - (c) Represents a request for information about the resource identified by a URI
  - (d) It requests that the resource identified by a URI is updated by the enclosed entity
7. Which of the following sentences are correct?
- (a) **Top and bottom margins do not affect inline text elements**
  - (b) Only positive values are admissible for the margin property
  - (c) The value of the margin property is inherited by child elements

- (d) The top and bottom margins of neighboring elements collapse
8. What does the Content-Encoding HTTP response header do?
- (a) It contains information about the software used by the origin server
  - (b) **It indicates how the response has been compressed**
  - (c) It specifies the MIME media type of the associated resource
  - (d) It specifies response MIME media types which are acceptable
9. What is the purpose of the <title> element?
- (a) It displays the title of the page on the url bar
  - (b) It displays the title of the page on the body
  - (c) It does not display its content since it is only used by search engines
  - (d) **It displays the title of the page on the window tab**
10. What is the correct jQuery code to set the color of all p elements to red?
- (a) `$("p").attr("color","red");`
  - (b) `$("p").style("color","red");`
  - (c) `$("p").style("text-color","red");`
  - (d) `$("p").css("color","red");`
11. What is a server push?
- (a) It is the cause of the HTTP HOL blocking issue
  - (b) It is an HTTP/2 feature used by the clients to proactively ask for contents to the server
  - (c) **It is an HTTP/2 feature used by the server to proactively send contents to the client**
  - (d) It is a bidirectional communication modality enabled via Websockets
12. Which of the following is a mouse event?
- (a) **mousemove**
  - (b) mouseonclick
  - (c) mousescroll
  - (d) rightclick
13. What did Vannevar Bush proposed?
- (a) The first browser
  - (b) The term hypertext
  - (c) The Xanadu project
  - (d) **The Memex**
14. Which of the following is an HTML5 page layout element?



- (a) <title>
  - (b) <nav>
  - (c) <head>
  - (d) <content>
15. What is the canvas element?
- (a) It is a CSS3 media query element for responsive applications
  - (b) **It is an HTML5 element which allows for drawing graphics by using JavaScript**
  - (c) It is a CSS3 container for floating objects
  - (d) It is an HTML5 element which allows for drawing graphics by using SVG
16. Which of the following are HTML block elements?
- (a) <li>
  - (b) <img>
  - (c) <p>
  - (d) <a>
17. What is a cookie?
- (a) It contains information about the software used by the origin server
  - (b) It is a way of implementing a caching mechanism for HTTP
  - (c) It is a way for the client to store state information into the server
  - (d) **It is a way for the server to store state information into the client**
18. What is an URI?
- (a) It is the format of a resource
  - (b) **It is a sequence of character which uniquely identifies a resource**
  - (c) It is a standard to support the encoding of resources
  - (d) It is a generic and abstract identification mechanism
19. What is MIME?
- (a) A way to encode Unicode characters
  - (b) A way to authenticating resources on the Web
  - (c) **An Internet standard to support the encoding of information for email and the Web**
  - (d) An encoding for escaping reserved and not plain ASCII characters in URI
20. What is the purpose of the HTTP DELETE request method in REST?
- (a) To read a resource
  - (b) To create a resource
  - (c) To update a resource

- (d) **To delete a resource**
21. What is a procedural mark-up language?
- (a) It deals with the actual laying out of contents on a page
  - (b) It defines the type or class of the content, e.g. to indicate its intended use
  - (c) **It consists of commands indicating how text should be formatted**
  - (d) It provides the means for extending the vocabulary of descriptive markup language
22. What is Git?
- (a) It is a continuous integration framework
  - (b) It is a site and documentation tool
  - (c) It is a tool for managing the build process of Java software projects
  - (d) **It is a tool for managing the cooperative development of source code**
23. What is a Java servlet?
- (a) **It is a server-side technology which generates dynamic Web content**
  - (b) It is a server-side technology which cannot provide static Web content
  - (c) It is a client-side technology which generates dynamic Web content
  - (d) It is a client-side technology which loads dynamic Web content
24. How do you specify a paragraph box with top padding of 10 px, bottom padding of 20 px, left padding of 1 px, and right padding of 5px?
- (a) padding: 10px 1px 20px 5px;
  - (b) **padding: 10px 5px 20px 1px;**
  - (c) padding: 5px 20px 1px 10px;
  - (d) padding: 10px 20px 1px 5px;

## Quiz Preappello - 24th May 2021

1. What is a browser?
- (a) A server which provides Web pages
  - (b) A client for sending email to an email server
  - (c) Part of the HTTP protocol
  - (d) **A software which allows for displaying Web pages**
2. What is the dark Web?
- (a) It is the Web of static pages
  - (b) **It is the Web ensuring anonymity**
  - (c) It is the Web originated from databases

- (d) It is the not indexable Web
- 3. What is AJAX?
  - (a) It is a technology to define the presentation of a Web page
  - (b) It is a server-side technology to programmatically issue HTTP requests
  - (c) **It is a client-side technology to programmatically issue HTTP requests**
  - (d) It is a technology to define the structure of a Web page
- 4. What does the HTTP PUT method do?
  - (a) It retrieves the resource identified by a URI
  - (b) It request the server to accept the entity enclosed in the request under the resource identified by a URI
  - (c) Represents a request for information about the resource identified by a URI
  - (d) **It requests that the resource identified by a URI is updated by the enclosed entity**
- 5. How does the HTTP basic authentication work?
  - (a) **Username and password are concatenated with a colon and then Base64 encoded in the Authorization header**
  - (b) Username and password are concatenated with a colon and then Base64 encoded in the WWW-Authenticate header
  - (c) Username and password are Base64 encoded and then concatenated with a colon in the Authorization header
  - (d) Username and password are Base64 encoded and then concatenated with a colon in the WWW-Authenticate header
- 6. What is a jQuery object?
  - (a) It is a single DOM element in jQuery language
  - (b) **It is a set of zero or more DOM elements**
  - (c) It is an object similar to the Window object in JavaScript
  - (d) It is an object similar to the DOM object in JavaScript
- 7. What are the main technologies of Web 1.0?
  - (a) HTTP, HTML, AJAX, URL
  - (b) **HTTP, HTML, MIME, URL**
  - (c) HTTP, RDF, MIME, URL
  - (d) HTTP, SPARQL, MIME, URL
- 8. Who did invent the memex?
  - (a) **Vannevar Bush**
  - (b) Tim Berners-Lee

- (c) Douglas Engelbart
  - (d) Ted Nelson
9. What are the issues of extended ASCII?
- (a) **Compatibility issues among different countries**
  - (b) Waste of space issues due to many unused characters
  - (c) Compatibility issues with the previous 7 bits version of ASCII
  - (d) Compatibility issues with the previous 32 bits version of Unicode
10. What is Maven?
- (a) It is a site and documentation tool
  - (b) **It is a tool for managing the build process of Java software projects**
  - (c) It is a continuous integration framework
  - (d) It is a tool for managing the cooperative development of source code
11. What is the purpose of the service method in a Java servlet?
- (a) It allows the servlet to cleanup resources
  - (b) It allows the servlet to send a request
  - (c) **It allows the servlet to respond to a request**
  - (d) It allows the servlet to accept a response
12. What is a single-tier architecture?
- (a) A Web server/database server architecture
  - (b) A thin client/Web server architecture
  - (c) A fat client/database server architecture
  - (d) **A dumb terminal/mainframe architecture**
13. Which elements are selected by the following CSS selector?
- ```
p a {
...
}
```
- (a) Any <p> element which has an <a> element inside
  - (b) Only <a> elements that are direct children of a <p> element
  - (c) **Any <a> element inside a <p> element**
  - (d) Any <p> element that has at least one <a> element as direct child
14. How can you attach an external CSS to your HTML document?
- (a) Insert the following element in the <head> element  
<link rel="stylesheet" type="text/css" src="mystyle.css">
  - (b) Insert the following element in the <heading> element  
<link rel="stylesheet" type="text/css" src="mystyle.css">

- (c) Insert the following element at the beginning of the <body> element  
`<link rel="stylesheet" type="text/css" href="mystyle.css">`
  - (d) **Insert the following element in the <head> element**  
`<link rel="stylesheet" type="text/css" href="mystyle.css">`
15. What is a descriptive markup language?
- (a) It refers to entities external to the document
  - (b) It provides the means for extending the vocabulary of the language
  - (c) It contains commands to format and layout the content
  - (d) **It defines the type or class of the content to indicate its intended use**
16. What is the percent encoding?
- (a) A way to represent binary data in textual HTTP requests
  - (b) The UTF-8 encoding of characters
  - (c) A compression encoding for textual resources
  - (d) **An escaping of reserved and not plain ASCII characters in URI, based on % plus hexadecimal representation of octets**
17. What is the purpose of the MIME multipart media type?
- (a) **To describe content where one or more sets of data are combined into a single body**
  - (b) To multiplex multiple requests and responses into a single stream of data
  - (c) To split a single body into multiple parts for more efficient transmission
  - (d) To describe each single part constituting an URI
18. How can you associate an image with its caption with HTML5?
- (a) You need only the <figure> and <figcaption> elements
  - (b) You need only the <img> and <figcaption> elements
  - (c) **Use the <figure>, <img> and <figcaption> elements**
  - (d) Use the <figure>, <img> and <p> elements
19. What is the purpose of the application logic layer?
- (a) To define the format and visualisation of information
  - (b) To manage the persistent storage of the data
  - (c) **To define and control the flow of operations in the application**
  - (d) To manage the interaction with the user
20. How does the JSP technology work?
- (a) **A pre-processor translates a JSP into a servlet and then the servlet processes the request**
  - (b) The JSP page directly returns the response to the client, after processing the request

- (c) The JSP is executed by an interpreter, like PHP, and processes the request
  - (d) The JSP page forwards the request to a servlet which processes it
21. What does the Content-Type HTTP response header do?
- (a) It contains information about the software used by the origin server
  - (b) It indicates how the response has been compressed
  - (c) **It specifies the MIME media type of the associated resource**
  - (d) It specifies response MIME media types which are acceptable
22. What does the following element represent?
- `<a src="http://www.example.com/index.html#bottom">`
- (a) A link to a specific page fragment
  - (b) A link to a specific web page
  - (c) **None of the other answers**
  - (d) A link to an element on the same page