Padasalai's Telegram Groups!

(தாசாம்பால் கோது கரை விளம்பு விளக்கம் வாய்ந்த குறிப்பை விளக்குவது!)

- Padasalai's NEWS - Group
  https://t.me/joinchat/NlfCqVRBNj9hhV4wu6_NqA

- Padasalai's Channel - Group
  https://t.me/padasalaichannel

- Lesson Plan - Group
  https://t.me/joinchat/NlfCqVWwo5iL-21gpzrXLw

- 12th Standard - Group
  https://t.me/Padasalai_12th

- 11th Standard - Group
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- 10th Standard - Group
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- 9th Standard - Group
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- 6th to 8th Standard - Group
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- 1st to 5th Standard - Group
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- TET - Group
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- PGTRB - Group
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- TNPSC - Group
  https://t.me/Padasalai_TNPSC
1. List out audio file formats
   - WAV (Waveform Audio File Format)
   - MP3 (MPEG Layer-3 Format)
   - AIFF (Audio Interchange File Format)
   - OGG
   - WMA (Windowa Media Audio)
   - RA

2. What is threading text blocks?
   A text block can be connected to other text block, so that the text in one text block can flow into another text block.
   Text blocks that are connected in this way are threaded.

3. What are the ACID properties?
   - Atomicity
   - Consistency
   - Isolation
   - Durability.

4. Write Syntax of the Function in PHP. Function functionName()
   
   ```php
   
   Custom Logic code to be executed;
   ```

5. What is Form Validation in PHP?
   Validation is a process of checking the input data submitted by the user from client machine. Validation of HTML form data is important to protect your form from hackers and spammers.

6. What is a domain?
   Domain is a subtree in domain name space tree structure. The domain can be further divided into sub domains.

7. Difference between wired and wireless networks. Wired networks:
   Connected with network cable. Ex: Speakers, CCTV, printers, outdoors and scanners.
   Wireless network:
   Connecting without cable. Ex: Tablets(tab), Indoor cameras, E-readers, Wifi.

8. How many types of RFID system available and what are they?
   (i) **Active RFID:** The tag has its own power source.
       (ii) **Passive RFID:** To get the power reader antenna.

9. Give few examples of MySQLi Queries.
   ```php
   mysqli_query($conn,"SELECT *FROM Persons");
   mysqli_query($conn,"INSERT INTO Persons(First name,Last name,Age)");
   ```

10. Usage of switch statement:
    - The switch statement is used to perform different actions based on different conditions.
    - It works the same as if statements but they check for multiple values at a time.
11. Usage of each loop in PHP.
The for each loop works only on arrays, and is used to loop through each key/value pair in an array.

12. Define HTML form control.
Main objective of PHP and HTML form controls are to collect data from users. The following control types are available in HTML form controlling: • Text inputs
Buttons, Checkbox, Radio box, File Select, Form Tag.

13. What are the mysqli functions. (or)
What is the purpose of mysqli function available in MySqi in PHP
mysqli_connect() Function
mysqli_close() Function
mysqli_select_db() Function
mysqli_affected_rows() Function
mysqli_connect_error() Function
mysqli_fetch_assoc() Function

A set of computers connected together for the purpose of sharing resources is called as computer network.

15. List out some features of Mobile Networks.
• Less consumption of power
• Huge capacity then a large transmitter, at single frequency
• Covering large area than a single transmitter.

• A Web server is a Software that uses HTTP (Hypertext Transfer Protocol) to serve the files that form Web pages to users

17. How would you insert a page in page maker
1. Go to the page where you want to insert.
2. Choose Layout > Insert Pages in the menu bar. The Insert Pages dialog box appears.
3. Type the number of pages you want to insert.
4. To insert pages after the current page, choose ‘after’ from the pop-up menu.
5. Click on Insert.
6. The new pages are inserted in your publication

18. List the disadvantages of file processing system
• Data Duplication – Same data is used by multiple resources for processing, created multiple copies of same data wasting the spaces. High Maintenance – Access control and verifying data consistency
• Security – Less security provided to the data.

19. What are the types of scripting languages?
Web scripting language are classified into two types,
• Client Side scripting language
• Server side scripting language.

20. Define user defined functions
• It allows user to write own specific operation inside of existing program module.
• A user-defined Function declaration begins with the keyword “function” followed by a user defined function name and any custom logic inside the function block.

**SYNTAX:**

```php
function functionName()
{
    Custom Logic code to be executed;
}
```

21. **What is a zone how is it different from a resolver?**

• Zone is defined as a group of contiguous domains and sub domains.
• The resolver is a program which is responsible for initiating the transaction of a domain name into an IP address.

22. **Define Multimedia Production.**

Multimedia production is any sort of production that uses imagery and a combination of text, audio, and graphics to tell a story.

23. **List any two DDL and DML Commands with its syntax.**

• **Data Definition Language (DDL):**
  - Commands Description Syntax
  - **CREATE**
    - Used to create database or tables
    - Syntax: `CREATE database databasename;`
  - **DROP**
    - Deletes a database or table.
    - Syntax: `DROP database databasename;`

• **Data Manipulation Language (DML):**
  - Commands Description Syntax
  - **INSERT** - Adds new rows into database table.
    - Syntax: `INSERT INTO tablename VALUES (value1, value2);`
  - **DELETE** - Deletes the records from the table.
    - Syntax: `DELETE from tablename WHERE columnname="value";`

24. **Differentiate User define and system define function.**

User Defined Function (UDF) in PHP allows user to write own specific operation inside of existing program module.

A user-defined Function declaration begins with the keyword “function” followed by a user defined function name and any custom logic inside the function block.

System define function: A function is already created by system are called system defined functions.

**Example:** `round()`, `sqrt()`

25. **List out conditional statement in php.**

Conditional Statements performs different actions for different decisions in programming languages.

**Types of Conditional Statements:**

- **if Statement**
- **if...else Statement**
- **if...elseif....else Statement**
- **switch Statement**

26. **Usage of Switch Statement in PHP.**

- The switch statement is used to perform different actions based on different conditions.
- Switch statements work the same as if statements but they can check for multiple values at a time.

27. **Classify the IMAGE component in multimedia**
Images are generated by the computer in two ways, as bitmap or raster images and as vector images.

1) Raster or Bitmap Images
   The common and comprehensive form of storing images in a computer is raster or bitmap image.

2) Vector Images
   Drawing elements or objects such as lines, rectangles, circles and so on to create an image are based on Vector images.

Answer the following: 3m
1. What is the use of Master page?
   Any text or object that you place on the master page will appear on the entire document pages to which the master is applied. Master Pages commonly contain repeating logos, page numbers, headers, and footers. Master items cannot be selected on a document page.

2. Briefly explain about Multimedia Components.
   MULTIMEDIA
   COMPONENTS: Text:
   Text is the basic component of multimedia most commonly used for communication. Static Text, Hypertext
   Image:
   Images acts as an vital component in multimedia that are generated in two ways, Bitmap or Raster images, Vector images.
   Animation
   Animation is the process of displaying still images so quickly so that they give the impression of continuous movement. Path Animation, Frame Animation
   Sound
   Sound is a meaningful speech in any language and providing the pleasure of music, special effects and so on. MIDI, Digital Audio
   Video
   Video is defined as the display of recorded event, scene etc. The powerful way to convey information in multimedia applications are embedding of video.
   Ex: Analog Video

2. What is relationship in databases? List its types.
   • In Entity Relationship Model, relationship exists between two entities. Three types of relationships are,
     1. One-to-One relationship
     2. One-to-Many relationship
     3. Many-to-Many relationship

3. Discuss on Cardinality in DBMS.
   • Cardinality is defined as the number of items that must be included in a relationship.
   • Cardinality is a number of entities in one set mapped with the number of entities of another set via the relationship.
   • Three classifications in Cardinality are one-to-one, one-to-many and Many-to-Many.
1. Draw a second frame with the Frame tool of your choice.
2. Click the first frame to select it.
3. Click on the red triangle to load the text icon.
4. Click the second frame.
5. PageMaker flows the text into the second frame.

7. **Write Short notes on Switch statement.**
   - The switch statement is used to perform different actions based on different conditions.
     - Switch statement uses single expression for multiple choices.
     - It test only for equality.
     - It evaluates only character or integer value.
     - If switch statements does not match any cases, the default statements is executed.

8. **Write the purpose of if elseif else statement.**
   - If-elseif-else statement is a combination of if-else statement.
   - More than one statement can execute the condition based on user needs.
   - **else if Statement:** The „if“ statement can also follow an „else” statement, if you want to check for another condition in the else part.

9. **Write the purpose Get method and Post method.**

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4. List any 5 privileges available in MySQL for the User.

5. **Write the features of server side scripting language.**
   1. Server-side scripting prevents increasing of the load as it does not require browser scripting technology.
   2. It is used to create pages dynamically on the fly, based on the user interaction.
   3. Server-side scripting is necessary to run dynamic pages on browsers.
   4. Server-side scripting does not depend on browser processing as all the processing is performed on the server side.
   5. As the scripting is done on the server, it is not sent back to the browser, which prevents it from hacking vulnerabilities.
   6. Loading time of the web pages is often reduced with Server-side scripting.
   7. An increased security is ensured for user privacy.

5. **Write short notes on PHP operator.**
   Operator is a symbol which is used to perform mathematical and logical operations in the programming languages.
   - **Different types of operator in PHP are:**
     1. Arithmetic operators
     2. Assignment operators
     3. Comparison operators
     4. Increment/Decrement operators
     5. Logical operators
     6. String operators

6. **How would you link frames containing text?** To link Frames containing text,
   1. Draw a second frame with the Frame tool of your choice.
   2. Click the first frame to select it.
   3. Click on the red triangle to load the text icon.
   4. Click the second frame.
   5. PageMaker flows the text into the second frame.
Form tag is used to mention a method (POST or GET) and control the entire form controls in the HTML document.

All input values are synchronized and sent to the server via POST method or GET method.

**Post Method:** The input data sent to the server with POST method is stored in the request body of the client’s HTTP request.

**Get Method:** The input data sent to the server with POST method via URL address is known as query string. All input data are visible by user after they clicks the submit button.

10. **What is the usage of cloud storage and cloud computing?**
   - **Cloud Storage:** Just a storage of data on online, access in different area no geographical limits was in need
   - **Cloud Computing:** It is based on Internet computing, to share resources, software and information.

11. **What is meant by artificial Intelligence?**
   - **Artificial intelligence** (AI) is the ability of a computer program or a machine to think and learn.
   - Artificial intelligence able to be a better predict traffic as it collects and analyzes data in real time.
   - Artificial intelligence will help to maintain, manage, and protect it.

12. **How computer networks saves the money saving?**
   - Using the computer networking, it’s important financial aspect for organization because it saves money.
   - It reduces the paper work, man power and save the time.

**Part - IV**

Answer all of the following questions: 5 x 5 = 25

1. **List the basic concepts of ER Model with suitable example.**

   ER model consists of a collection of entities where each of these entities will be interconnected with each other with conditions and dependencies.

   **ER Modeling Basic Concepts**

   The basic concepts of ER model consists of

   1. Entity or Entity type
   2. Attributes
   3. Relationship

   **Entity or Entity type**

   An Entity can be anything a real-world object or animation which is easily identifiable by anyone even by a common man. An entity is represented by a rectangular box.

   **Example:** In a company’s database Employee, HR, Manager are considered as entities

   **Strong Entity:** A Strong entity is the one which doesn’t depend on any other entity on the database with a primary key. It is represented by one rectangle.

   **Weak Entity:** A weak entity is dependent on other entities and it doesn’t have any primary key. It is represented by double rectangle.

   **Entity Instance:** Instances are the values for the entity
   - Entity Instance denotes the category values for the given entity.
• If we consider animals as the entity their instances will be dog, cat, cow… Etc

**Attributes**

An attribute is the information about that entity and it will describe, quantify, qualify, classify, and specify an entity.

**Types of attributes:**

1. Key Attribute - Unique characteristic of an entity.
2. Simple Attributes -
3. Composite Attributes -
4. Single Valued Attribute - C
5. Multi Valued Attribute - Has

**Relationship:**

In Entity Relationship Model, relationship exists between two entities. Three types of relationships are,

- One-to-One relationship
- One-to-Many relationship
- Many-to-Many relationship

2. **Explain in detail Techniques of Animation**

Animation is the process displaying still images so quickly so that they give the impression of continuous movement. In animation the screen object is a vector image in animation. Using numerical transformations the movement of that image along its paths is calculated for their defining coordinates.

The least frame rate of at least 16 frames per second gives the impression of smoothness. Natural looking should be at least 25 frames per second.

Animation tools are very powerful and effective.

• Animations may be in two or three dimensional.

**Two dimensional:** An image alive, occurs on the flat X and Y axis of the screen.

**Three dimensional:** Animation occurs along the three axis X, Y and Z.

The two basic types of animations are, Path animation involves moving an object on a screen that has a constant background.

**Example:** A cartoon character may move across the screen regardless of any change in the background or the character.

In frame animations, multiple objects are allowed to travel simultaneously and the background or the objects also changes.

3. **Explain in detail about production team Roles and Responsibilities**

1. **Production Manager**

The role of production manager is to define, and coordinate, the production of the multimedia project in time and with full quality.

Content specialist is responsible for performing all research activities concerned with the proposed application’s content.

The script writer visualizes the concepts in three dimensional environments and if needed uses the virtual reality integration into the program.
The content of a multimedia production always must flow logically and the text should always be structured and correct grammatically.

5. Multimedia Architect
6. Computer Graphic Artist
7. Audio and Video Specialist
8. Computer Programmer
The computer programmer writes the lines of code or scripts in the appropriate language.

9. Web Master
The responsibility of the web master is to create and maintain an Internet web page.

4. How can you convert text in a text block to a frame?
- After created text in a text block, if you want to convert it to a frame.
1. Draw the frame of your choice using one of the PageMaker’s Frame tool.
2. Select the text block you want to insert in the frame.
3. Click the frame while pressing the Shift key. Now both elements will be selected.
4. Choose Element > Frame > Attach Content on the Menu bar.
5. Now the text appears in the frame.

5. Explain the process of Webserver installation.
Web server software such as Tomcat Apache, Nginx are available as open source or licensed version in the market. Steps to install and configure Apache Httpd

Webserver and PHP module in windows server machine.

Step 1: Go to Apache foundation Website and download the Httpd Webserver Software. https://httpd.apache.org/download.cgi

Step 2: After downloading .MSI file from Apache foundation Website, user launches the .MSI file and clicks next and next button to finish the installation on server machine.
The software takes default port number 130 or 130130.
Once the user finished, the Web server software is installed and configured on server hardware machine as a service.

Step 3:
To test the installation of Apache Httpd Webserver, enter the following URL from your Web browser which is installed in your client machine.
https://localhost:130/ or https://localhost:130130 The output page that says “It’s works”

Step 4: Administrator user can start, stop and restart the Web server service at any time via windows Control panel.
Once the services stops, the client machine will not receive the response message from server machine.

Step 5: Webserver’s configuration setting file “httpd.conf” is located in the conf directory under the apache installation directory.
Edit this file and enable the PHP module to run PHP scripting language.

6. Discuss in detail about PHP data types.
PHP scripting language supports 13 primitive data types.

7. Discuss the various database models in DBMS

The database technology came into existence in terms of models with relational and object-relational behavior.

Types of Data Model:
1. Hierarchical Database Model
2. Network model
3. Relational model
4. Object-oriented database model

i) Hierarchical Database Model
Hierarchical database model was IMS, IBM’s first DBMS.
In this model each record has information in parent/ child relationship like a tree structure. The collection of records was called as Record Types / Tables. The individual records are equal to rows.

Advantages: Less redundant data, Efficient Search, Data Integrity and Security.

Limitations: Complex to implement and difficulty in handling many to many relationships.

ii) Network model
Network model is similar to Hierarchical model except that in this model each member can have more than one owner.
The many to many relationships are handled in a better way.
This model identified the three database components such as,

Network schema: Schema defines all about the structure of the database.
Sub schema: Controls on views of the database for the user
Language for data management: Basic procedural for accessing the database.

iii) Relational Model
Oracle and DB2 are few commercial relational models in use.
Relational model is defined with two terminologies Instance and Schema. Instance – A table consisting of rows and columns

Schema – Specifies the structure including name and type of each column.

A relation (table) consists of unique attributes (columns) and tuples (rows).

iv) Object-Oriented Database Model
This model is the combination of OOP’s concepts and database technologies and also serves as the base of Relational model.
Object oriented model uses small, reusable software known as Objects.
These are stored in object oriented database.
This model efficiently manages large number of different data types.
Complex behaviors are handled efficiently using OOP’s concepts.

8. Explain function concepts in PHP

- A function is a block of segment in a program that performs a specific operation or tasks.
- It is a type of sub routine or procedure in a program.
- Functions are reusable; i.e a task can be executed any number of times.
• A Function will be executed by a call to the Function and the Function returns any data type values or NULL value to called Function in the part of respective program.

• User defined Function,
• Pre-defined or System or built-in Function, and
• Parameterized Function

a) User Defined Function: PHP allows user to write own specific operation inside of existing program module. A user-defined Function declaration begins with the keyword “function” followed by a user defined function name and any custom logic inside the function block.

SYNTAX: function functionName()
{
    Custom Logic code to be executed;
}

Function Calling:
• A function declaration part will be executed by a call to the function. Programmer has to create Function Calling part inside the respective program.

SYNTAX: functionName();

Example:
<?php function insertMsg()
{
    echo “Student Details Inserted Successfully!”;
    insertMsg(); ?>
}

b) System Defined Function:
• A function is already created by system it is a reusable piece or block of code that performs a specific action.
• Functions can either return values when called or can simply perform an operation without returning any value.
• They are embedded in language and are provided by compiler.

Example:
round() , sqrt() , date() , sin() , cos() 

c) Parameterized Defined Function:

PHP Parameterized functions are the functions with parameters or arguments.
• Required information can be shared between function declaration and function calling part inside the program.
• The arguments are mentioned after the function name and inside of the parenthesis.

There is no limit for sending arguments, just separate them with a comma notation.

Example:
<?php function sum($x, $y)
{
    $z = $x + $y; return $z;
}

echo “5 + 10 =”. sum(5, 10) . “<br>”; echo “7 + 13 =”. sum(7, 13) . “<br>”; 

echo “2 + 4 =”. sum(2, 4);
9. Discuss in detail about Switch statement with an example.

Switch Case: The switch statement is used to perform different actions based on different conditions.
- Switch statement uses single expression for multiple choices.
- It test only for equality.
- It evaluates only character or integer value.
- Use break to prevent the code from running into the next case automatically.
- The default statement is used if no match is found.

Syntax: switch (n) {
  case label1: code to be executed if n=label1; break;
  case label2: code to be executed if n=label2; break;
  ...
  ...
  default: code to be executed if n is different from all labels; }

Example: <?php
  $a=2;
  switch($a)
  {
    case 1: echo”Sunday”,break;
    case 2:echo”Monday”,break;
    case 3:echo”Tuesday”,break;
    default:echo”holiday”;}

Output: Monday

10. Explain Looping Structure in PHP. Looping Structure:
- Looping statements are used to repeat the same block of code a given number of times, or until certain condition is met.
- Looping Structures are useful for writing iteration logics.
- It is the most important feature of many programming languages, including PHP.
- This helps the user to save both time and effort of writing the same code multiple times.
- They are implemented using the following categories.
- for Loop
- for each Loop
- While Loop
- Do While Loop

For Loop:
- For loops execute a block of code for a specified number of times.
- The for loop is used when you know in advance how many times the script should run.

Syntax: for (init counter; test counter; increment counter)
CHAPTER 1 TO 12 (2MARKS, 3MARKS AND FIVE MARKS QUESTIONS WITH ANSWER KEY

2. Explain the Database error handling and management process in PHP? Managing Database Connections

The below code snippet describes managing database connection methods and features.

```php
<?php
$servername = "localhost"; $username = "username"; $password = "password";
$DB_name = "School_DB";
$conn = mysqli_connect($servername, $username, $password, $DB_name);
if (!@$conn)
{
    die("Connection failed: " . mysqli_connect_error());
}
else
{
    echo "Connected successfully";
}
?>
```

- In the above code snippet, three variables are used to connect to the Database server. They are,
  - $servername -> Database Server Server IP address
  - $username -> Database Server User Name
  - $password -> Database Server User Password

- During the connection process, the connection to the database server is checked using the `mysqli_connect()` function.
- If the connection is successful, the message "Connected successfully" is displayed.
- If the connection is failed, the reason for the failure is displayed using the `mysqli_connect_error()` function.

- The `foreach` loop iterates over each key/value pair in the `$_SESSION` superglobal array.
  ```
  foreach ($_SESSION as $key => $value)
  {
      code to be executed;
  }
  ```

  - The `foreach` loop iterates over each key/value pair in the array.
  - It assigns the current array element to the `$value` variable and shifts the array pointer by one, until the end of the array is reached.

- The `while` loop executes the loop if the specified condition is true.
  ```
  while (condition is true)
  {
      code to be executed;
  }
  ```

  - It iterates over the loop until the condition is true.

- The `do while` loop always runs the statement inside of the loop block at the first time execution.
  ```
  do
  {
      code to be executed;
  } while (condition is true);
  ```

  - It executes the loop, if the specified condition is true.

- The `foreach` loop is used to loop through each key/value pair in an array.

  ```
  foreach ($array as $value)
  {
      code to be executed;
  }
  ```

  - It executes the loop if the specified condition is true.

  - The `foreach` loop is used to loop through each key/value pair in an array.

  ```
  foreach ($array as $value)
  {
      code to be executed;
  }
  ```

  - The `foreach` loop iterates over each key/value pair in the array.

- While loop is used for simple iteration logics.
  ```
  while (condition is true)
  {
      code to be executed;
  }
  ```

  - It executes the loop if the specified condition is true.

- Do while loop always run the statement inside of the loop block at the first time execution.
  ```
  do
  {
      code to be executed;
  } while (condition is true);
  ```

  - It executes the loop if the specified condition is true.

- The `foreach` construct provides an easy way to iterate over arrays.
  ```
  foreach ($array as $value)
  {
      code to be executed;
  }
  ```

  - It assigns the current array element to the `$value` variable and shifts the array pointer by one, until it reaches the end of the array element.
● $password -> Database Server Password
● $DB_Name -> Database Name
● The mysqli_connect function uses these variables and connect Database server from PHP scripting.
● If connection gets fail, output will be printed with MySQL error code.
● Otherwise connection is success.