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|  | **fofx Academy Curriculum** |
| **DAILY SPREAD: (PHP - PROCEDURAL & OOP)** |

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| **WEEK 4** | | |
| **THU** | ***Focus*** | * PHP Installation on Windows and Linux; CentOS VBox (Nginx configuration to PHP). * PHP Syntax Overview: Statements & Expressions, Comments, Case sensitivity, About whitespace. * PHP Variables: Variable Types (integers, doubles, Boolean, NULL, strings, etc.); Variable Scope (local, global, static); Constants. * PHP operator types: Arithmetic, Comparison, Logical, Assignment, and Conditional; Operator categories; Operator precedents. |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | Write a php program to to add two numbers Write a php program to find the average of two numbers Write the quadratic formulae in code (This is to understand the rule of precedence in php operators)  Write a php program to display “Hello World!” |
| **FRI** | ***Focus*** | * PHP String manipulation: The Concatenation operator; String Methods (the *strlen(*) function, the *strpos()* function). * Conditionals and Decision making: if...else, elseif, switch statements * PHP Loops: while, do...while, for, foreach, break statement, continue statement. * PHP Arrays: Mono- and Multi-dimensional 7 Arrays (numeric and associative). * PHP Array Methods & *var\_dump()* |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | N.B: Throughout these exercises, students should use variables to supply data, instead of hardcoding values. It will help to understand the concept of variables.   * Write a program to accept a value (string) and display the number of characters it constitute * Write a program to display 1-20 and use html link break * Write a program to display odd numbers between 1-50 * Write a program to calculate the factorial of a number (The number should be assigned because they haven’t known how to use forms) using a for loop. * Declare an array (indexed array) of names with 6 values, look for an element (make sure the value has been assigned to a variable) and using the appropriate array function (give them expo [array\_search()]) remove the element from the array. Show the before and after. * Write the program above using foreach() * Declare arrays and display using var\_dump() |
| ***Weekend Mini-Project*** | | * Write a program to calculate electricity bill using these conditions:   For first 50 units – N 3.50/unit, For next 100 units – N 4.00/unit, For next 100 units – N 5.20/unit and For units above 250 – N 6.50/unit  The program should accept units and calculate using the above conditions. |

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| **WEEK 5** | | |
| **MON** | ***Focus*** | * PHP Functions: Creating a function, Functions with parameters, Passing argument by reference, Functions returning value, Setting default values for parameters, Dynamic function calls. * PHP File Inclusion: *include()*, *include\_once()* and *require()*, *require\_once()* functions. * PHP Files and I/O: Opening and Closing files, Reading and Writing files. * PHP Web Concepts: Identifying browser and platforms using HTML forms; Browser redirection; Displaying "file download" dialog box; The GET Method; The POST Method; The $\_REQUEST variable. |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | * Write a php program that includes any other php file and an online resource * Write a program to calculate the factorial of any number using a recursive function.(A function that calls itself) * Write a program to detect if a person is eligible for voting * Write a program that writes about you to a .txt file * Create a contact form to accepts details of a user and onSubmit, redirect to another page and display the user’s info. * Outline the differences between post and get |
| **TUE** | ***Focus*** | * PHP Predefined Variables: PHP superglobals, Server ($\_SERVER) variables. * PHP and MySQL: Preconditions; Connect to MySQL database; Use PHP to create and delete MySQL database; Insert data to and retrieve data from database; Pagination through PHP; Update data into and deleting data from MySQL database; Use PHP to backup MySQL database. * PHP Sending emails: Sending plain text email, HTML email; sending attachments with email. |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | At the End of the lesson; Create a Registration form with good look and feel and connect it to a database. Using the mail function, send a custom mail to the email address collected after registration. |
| **WED** | ***Focus*** | * PHP Coding standard and best practices. * Discussions on First Semester Main project. * PHP Cookies and Sessions: Anatomy of a Cookie, Setting, Assessing and deleting cookies; Starting and destroying a PHP session, Turning on auto-session, Sessions without cookies. * PHP File uploading: Creating an upload form, creating an upload script. |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | Create a platform with a login page that creates a session for any logged in user, create an upload form that allows the user to upload a profile picture, display the picture uploaded and a logout that destroys the session. |
| **THU** | ***Focus*** | * PHP Date and Time: getting the timestamp with *time()*; converting a timestamp with *date()* and *getdate()* * PHP Error and Exception handling: using the *die()* function, defining custom error handling function, exceptions handling, bugs debugging. * AJAX: What is AJAX? Technologies used in AJAX (jS, DOM, CSS, XMLHttpRequest); AJAX in Action (Steps of AJAX Operation); XMLHttpRequest Methods and Properties; Database Operations (Client-side HTML file, and Server-side PHP file); Security (Server-side and Client-side) |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | \* Using the date functions, get the current date and time. \* Use and master as much as possible date formats you can \* Write a php program to calculate the age of a person. \* Practice AJAX fundamentals |
| **FRI** | ***Focus*** | * Continue discussions on First Semester project. |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | Create a CRUD system and use AJAX where neccessary. (This is to refresh your memory on data-manipulation using SQL and make master AJAX) |
| ***Weekend Mini-Project*** | | Create a photo gallery using php. \* The platform should be for all users. i.e users get to register and login. \* Immediately after registration, send a welcome custom mail to the provided email address. \* Users should be able to write something about the image to be uploaded. Case study of facebook  \* A user should also have a profile \* Logged in users should be able to see other uploads, who uploaded them, time, description and so on. \* Users should be able to edit and delete their own uploaded photos from the gallery \* Make sure your frontEnd design is mobile responsive at least to some extent, if not perfect. \* Think of some extra features you can add to make this awesome |

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| **WEEK 8** | | |
| **MON** | ***Focus*** | * OOP PHP I: Object Oriented Concepts; Defining PHP Classes; Creating Objects in PHP; Calling Member Functions; Constructor Functions; Destructor; inheritance; Function Overriding. * OOP PHP II: Public and Private Members; Interfaces; Constants; Abstract Classes; The Static Keyword; The Final Keyword. * OOP PHP III: Introduction to MVC |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | \* Understand the Concept of MVC  \* Understand the following: Abstraction, Encapsulation, Inheritance, Polymorphism, Code-reusability, Constructors, Access Modifiers, block.  \* Work towards creating a Todo list using OOphp |
| **TUE** | ***Focus*** | * PHP MVC (contd.): Work on a sample MVC project. |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | Draw a relationship diagram between Model, View and Controller  Work towards creating a Todo list using OOphp |
| **WED** | ***Focus*** | * Sample PHP MVC project (contd.) * PHP & XML: HTML list as valid XML; Parsing an XML Document; Generating an XML document. * APIs & Web Services: What is REST? Creating a RESTful web service. |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | Work towards creating a Todo list using OOphp  Differentiate between SOAP and REST  Identify web services and their categories. i.e either REST or SOAP |
| **THU** | ***Focus*** | * Sample PHP MVC project (contd.) |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | Work towards creating a Todo list using OOphp  Outline all the features of a good and comprehensive todo list. |
| **FRI** | ***Focus*** | * Complete Sample PHP MVC project. |
| ***Study***  ***Resources*** |  |
| ***Drills &***  ***Exercises*** | Commence the Creation of a Todo list using OOphp |
| ***Weekend Mini-Project*** | | Complete the Creation of a Todo list using OOphp |