

PHP Chapter 1-7

Chapter 1:

Instructions: Choose the best answer for each question.

1. What is the primary function of PHP in server-side web development?

- A. Rendering the visual layout on the client's browser.
- B. Executing code on the web server to generate dynamic HTML content.**
- C. Managing user interactions via the Document Object Model (DOM).
- D. Defining the structure and appearance of static web pages.

Correct Answer: B

2. What does the modern, recursive acronym PHP stand for?

- A. Personal Home Page
- B. Professional Hypertext Programming
- C. Program Hypertext Protocol
- D. PHP: Hypertext Preprocessor**

Correct Answer: D

3. Which file extension is the standard and necessary extension for a PHP script file?

- A. .phtml
- B. .html
- C. .php**
- D. .script

Correct Answer: C

4. Which set of characters marks the standard, most compatible, and recommended opening tag for a block of PHP code?

- A. <?
- B. <?>

Correct Answer: C

5. PHP is often described as a server-side scripting language because:

- A. It must be installed on the client's computer to run.
- B. It executes on the web server before the resulting HTML is sent to the client.**
- C. It is primarily used for scripting network protocols.
- D. It can only run on Windows servers.

Correct Answer: B

6. Which of the following is a major CMS mentioned in the book as an example of PHP's real-world application?

- A. Django
- B. WordPress**
- C. Ruby on Rails

D. ASP.NET

Correct Answer: B

7. MySQL is classified as what type of system?

- A. Flat-file storage system
- B. Relational Database Management System (RDBMS)**
- C. Network routing protocol
- D. Front-end scripting library

Correct Answer: B

8. PHP's design goal is centered around making it easy to create:

- A. Complex desktop applications
- B. Command-line utilities
- C. Dynamic web pages and applications**
- D. Operating system kernels

Correct Answer: C

9. What characteristic of PHP allows its source code to be studied, modified, and redistributed by the community?

- A. Cross-platform compatibility
- B. Object-oriented support
- C. Open source nature**
- D. Speed

Correct Answer: C

10. Which operating systems can PHP be installed and run on?

- A. Windows only
- B. Linux only
- C. Windows, macOS, and Linux (cross-platform)**
- D. Unix servers only

Correct Answer: C

11. The combination of Linux, Apache, MySQL, and PHP is widely referred to by which acronym?

- A. WAMP
- B. XAMP
- C. PLAMP
- D. LAMP**

Correct Answer: D

12. What is the primary advantage of using a database (like MySQL) over flat files?

- A. Databases can only store text data.
- B. Databases manage structured data, integrity, concurrent access, and security efficiently.**
- C. Databases are always simpler to set up.
- D. Databases execute faster than PHP scripts.

Correct Answer: B

13. When a PHP script is executed, what is typically sent back to the user's browser?

- A. The raw PHP source code
- B. The PHP runtime binary file**

C. The resulting HTML, CSS, and JavaScript

D. A compressed zip archive

Correct Answer: C

14. What is the historical origin of the PHP language?

A. Created by Microsoft for ASP integration

B. Began as a set of Perl scripts for tracking resume views

C. Started as a command-line tool

D. Was a module extension for Apache

Correct Answer: B

15. Which term describes the relationship between PHP and MySQL in a standard web stack?

A. Detached

B. Proprietary

C. Complementary

D. Obsolete

Correct Answer: C

16. Which server software is typically bundled with PHP and MySQL to handle HTTP requests?

A. Microsoft IIS

B. Nginx

C. Apache HTTP Server

D. Tomcat

Correct Answer: C

17. Which element is NOT a component of the standard LAMP stack?

A. Linux

B. PostgreSQL

C. Apache

D. PHP

Correct Answer: B

18. What happens if the PHP interpreter encounters an error while executing a script?

A. The script's output (including error message) is immediately sent to the client.

B. The entire web server shuts down.

C. The browser automatically corrects the error.

D. The operating system fixes it.

Correct Answer: A

19. PHP can be embedded directly into which type of markup language?

A. XML

B. CSS

C. JavaScript

D. HTML

Correct Answer: D

20. When PHP is used for non-web scripting tasks (like command-line utilities or cron jobs), it utilizes:

A. The web server module

B. The PHP Command Line Interface (CLI)

C. The MySQL client

D. A Perl interpreter

Correct Answer: B

21. Why is PHP often recommended for beginners learning server-side web development?

A. It has complex syntax.

B. It has a gentler learning curve and strong community support.

C. It is the newest language.

D. It doesn't require HTML.

Correct Answer: B

22. What is the main benefit of Object-Oriented Programming (OOP) in PHP?

A. It eliminates the need for a database.

B. It allows code to be organized, reusable, and maintainable.

C. It restricts PHP to two data types.

D. It only works on Linux.

Correct Answer: B

23. Which feature allows PHP code developed on Windows to run on Linux without major modification?

A. Dynamic Typing

B. Strong Community

C. Cross-Platform Compatibility

D. Memory Encryption

Correct Answer: C

24. The PHP source code maintained by a global community benefits its:

A. Cost-effectiveness and rapid evolution

B. Limited scope

C. Exclusion from commercial projects

D. Reliance on proprietary software

Correct Answer: A

25. What is the role of the PHP interpreter in the request lifecycle?

A. It receives the HTTP request directly.

B. It translates PHP code into machine-readable instructions and executes it.

C. It executes SQL queries.

D. It caches static files.

Correct Answer: B

26. Which e-commerce platform demonstrates PHP's capability to handle complex online stores?

A. Shopify

B. Squarespace

C. Magento

D. Wix

Correct Answer: C

27. Dynamic Content generated by PHP means the content:

A. Never changes.

B. Changes based on time, user input, or database data.

C. Stored in the browser cache.

D. Only displays text.

Correct Answer: B

28. Which common PHP configuration stack is used on macOS?

A. WAMP

B. MAMP

C. LAPP

D. IMP

Correct Answer: B

29. How does the PHP interpreter primarily interact with a MySQL database?

A. Reads MySQL data from local file system.

B. Sends SQL commands via extensions like MySQLi or PDO.

C. Uses JavaScript to retrieve data.

D. Manages the MySQL internal files.

Correct Answer: B

30. The ability of PHP to handle form data, sessions, and files makes it highly useful for:

A. Database administration only.

B. Client-side scripting only.

C. Server-side programming and backend logic.

D. Styling and visual layout.

Correct Answer: C



Chapter 2:

1. Which configuration stack is correctly represented by the acronym WAMP?

A. Web server, Apache, MariaDB, Perl

B. Windows, Apache, MySQL, PHP

C. WebSphere, Apache, MariaDB, Perl

D. Windows, Apache, MariaDB, PHP

Correct Answer: B

2. What is the purpose of the phpinfo() function when setting up a new PHP installation?

A. To restart the Apache web server.

B. To define new PHP classes and functions.

C. To output a comprehensive list of the PHP installation's configuration settings and extensions.

D. To securely encrypt sensitive configuration details.

Correct Answer: C

3. What is the name of the central configuration file for the PHP runtime environment?

A. httpd.conf

B. config.ini

C. php.ini

D. settings.php

Correct Answer: C

4. To ensure that PHP errors are displayed directly in the browser during development, which php.ini directive should be set to On?

A. log_errors

B. error_reporting

C. display_errors

D. short_open_tag

Correct Answer: C

5. What is the purpose of the extension_dir directive in php.ini?

A. It specifies the root directory of the web application.

B. It defines the directory where PHP's executable files are located.

C. It tells the PHP interpreter where to look for dynamically loadable extensions (e.g., php_mysqli.dll).

D. It sets the location for PHP's temporary file storage.

Correct Answer: C

6. On a typical Apache setup, where are the primary web application files usually stored?

A. In the /etc/httpd/ directory.

B. In the /var/log/apache/ directory.

C. In the DocumentRoot directory, often named htdocs or [www](#).

D. In the /usr/bin/ directory.

Correct Answer: C

7. After modifying the php.ini file, what is the necessary next step to apply these changes to a running web application?

A. Run phpinfo() again to confirm the changes.

B. Reboot the entire operating system.

C. Restart the Apache web server (or other web server).

D. Clear the browser cache.

Correct Answer: C

8. Which command is commonly used on Linux and macOS to view the PHP configuration settings from the command line?

A. apachectl configtest

B. php --version

C. php -i

D. mysql -V

Correct Answer: C

9. What is the default TCP port that the Apache HTTP Server typically listens on for standard, unencrypted web traffic?

A. 21

B. 443

C. 80

D. 306

Correct Answer: C

10. Which Apache module is required for the web server to pass requests for .php files to the PHP interpreter?
- A. mod_rewrite
 - B. mod_deflate
 - C. mod_php or an equivalent handler (like FPM)
 - D. mod_ssl
- Correct Answer: C**
11. What is the primary difference between a WAMP stack and a MAMP stack?
- A. WAMP uses the Apache server, while MAMP uses IIS.
 - B. WAMP is for Windows, and MAMP is for macOS.
 - C. WAMP uses MySQL, while MAMP uses PostgreSQL.
 - D. WAMP stands for Web and Application Management Platform.
- Correct Answer: B**
12. To enable the use of short open tags (<?), which directive in php.ini must be configured?
- A. allow_short_tags
 - B. enable_short_tags
 - C. short_open_tag
 - D. short_syntax
- Correct Answer: C**
13. Why is it recommended to use <?php as the opening tag instead of <? in production environments?
- A. It results in faster execution time.
 - B. It prevents conflicts with XML processing instructions.
 - C. It is easier to type and read.
 - D. It is required for object-oriented programming.
- Correct Answer: B**
14. When switching from a Development environment to a Production environment, what change should be made to the display_errors directive?
- A. Change it from Off to On.
 - B. Change it from On to Off.
 - C. Keep it On, but set error_reporting to E_ALL.
 - D. Delete the directive entirely.
- Correct Answer: B**
15. What is the primary role of the Apache web server in a LAMP/WAMP stack?
- A. To process the business logic of the application.
 - B. To store and retrieve application data.
 - C. To manage and transfer files via FTP.
 - D. To listen for HTTP requests and serve static

and dynamic content.

Correct Answer: D

16. The max_execution_time directive in php.ini controls:
- A. The maximum number of concurrent database connections.
 - B. The time (in seconds) that a script is allowed to run before being terminated.
 - C. The time (in seconds) for a script to wait for a database query to complete.
 - D. The maximum file size that can be uploaded.
- Correct Answer: B**
17. What is the default TCP port that the MySQL database server typically listens on?
- A. 8022
 - B. 3306
 - C. 8080
 - D. 80
- Correct Answer: B**
18. In a Windows environment, what is the most convenient way for a beginner to install the entire WAMP stack?
- A. Manually downloading and configuring each component separately.
 - B. Using a unified installer like XAMPP or WampServer.
 - C. Using the Windows command prompt's built-in package manager.
 - D. Installing Apache, then using the PHP extension loader.
- Correct Answer: B**
19. Which of the following Apache configuration directives specifies the file the server should serve when a URL request does not specify a file name?
- A. ScriptAlias
 - B. DocumentRoot
 - C. DirectoryIndex
 - D. AllowOverride
- Correct Answer: C**
20. A PHP developer needs to upload a 50MB file. Which two php.ini directives must be adjusted to allow this large upload?
- A. max_execution_time and memory_limit
 - B. upload_max_filesize and post_max_size
 - C. display_errors and error_reporting
 - D. session.gc_maxlifetime and session.cache_expire
- Correct Answer: B**
21. The memory_limit directive in php.ini serves to:
- A. Control the maximum size of files uploaded

to the server.

- B. Set the maximum amount of RAM (in megabytes) a PHP script is allowed to allocate.
- C. Limit the maximum time a script can run before timeout.
- D. Define the location of the system's swap file.

Correct Answer: B

22. What is the primary function of the `extension=mysqli` directive within `php.ini`?
- A. It installs the MySQL database on the server.

- B. It configures the default username and password for MySQL connections.
- C. It loads the PHP module required for connecting to and interacting with MySQL databases.
- D. It forces PHP to use the older `mysql` extension.

Correct Answer: C

23. What does a developer typically type into a web browser's address bar to access their local development web server?

- A. <https://www.google.com>
- B. `ftp://localhost`
- C. <http://127.0.0.1> or <http://localhost>
- D. `file:///C:/htdocs/index.php`

Correct Answer: C

24. On a Linux server, which command is generally used to stop and start the Apache web server service?
- A. `php stop; php start`
 - B. `service apache2 restart` or `systemctl restart httpd`
 - C. `killall apache`
 - D. `mysqladmin shutdown`

Correct Answer: B

25. What is the consequence of configuring `error_reporting = E_ALL` in `php.ini`?
- A. Only fatal runtime errors are reported.
 - B. Only notices and warnings are suppressed.
 - C. It reports every error, warning, and notice available in PHP.
 - D. It causes all error messages to be encrypted for security.

Correct Answer: C

26. Which PHP command-line tool is used to execute PHP scripts without the need for a web server?
- A. `apachectl`
 - B. `mysqli_connect`
 - C. The PHP CLI (Command Line Interface) executable

D. `phpMyAdmin`

Correct Answer: C

27. What is the primary security risk of leaving `display_errors = On` in a production environment?
- A. It slows down the execution time of scripts.
 - B. It violates PHP's open-source license.
 - C. It exposes sensitive information like file paths and internal logic to potential attackers.
 - D. It prevents the web server from serving static HTML files.

Correct Answer: C

28. Which Apache configuration file or feature allows developers to override global web server settings on a per-directory basis (e.g., enable URL rewriting)?
- A. The `httpd.conf` file (globally only).
 - B. A special PHP script named `override.php`.
 - C. The `.htaccess` file.
 - D. The `php.ini` file.

Correct Answer: C

29. Which utility is generally used on Linux-based systems to install and manage software packages, including Apache and PHP?
- A. `npm` (Node Package Manager)
 - B. `Composer`
 - C. `APT` (Advanced Packaging Tool) or `Yum/DNF`
 - D. `Homebrew` (on macOS)

Correct Answer: C

30. What is a common tool found in integrated stacks (like XAMPP or MAMP) that provides a web interface for administering the MySQL database?
- A. `Composer`
 - B. `phpMyAdmin`
 - C. `PHPStorm`
 - D. `Visual Studio Code`

Correct Answer: B

Chapter 3:

1. Which character is used to denote the start of a variable name in PHP?
A. `@` B. `#` C. `$` D. `&`
Correct Answer: C
2. Which symbol is used to indicate the end of most PHP statements (excluding control structures)?
A. A colon (`:`) B. A comma (`,`) C. A

semicolon (;) D. A period (.)

Correct Answer: C

3. **What is the purpose of the echo language construct?**

A. To store data into a variable.
B. To retrieve data from a database.
C. To output one or more strings to the browser.
D. To define a new function.

Correct Answer: C

4. **Which of the following is a valid name for a PHP variable?**

A. \$24hours B. \$my-variable C. \$user_name
D. \$_#count

Correct Answer: C

5. **PHP is a loosely typed language, which means:**

A. You must declare the variable's data type before its first use.
B. The variable's data type is determined by the value assigned at runtime.
C. The variable can only hold string data.
D. Variables are not allowed to store numbers.

Correct Answer: B

6. **Which data type is used to represent an integer or a floating-point number in PHP?**

A. Numeric B. Decimal C. Scalar D. Float and Integer

Correct Answer: D

7. **Which type of comment in PHP spans only a single line?**

A. /* This is a comment / B. `` C. // This is a comment
D. # This is a comment
*#

Correct Answer: C

8. **Which PHP control structure is used to execute a block of code repeatedly as long as a specified condition remains true?**

A. if-else B. switch C. while loop D. do-once

Correct Answer: C

9. **Which operator is used for string concatenation in PHP?**

A. The plus sign (+) B. The dot (.) C. The ampersand (&)
D. The pipe (|)

Correct Answer: B

10. **The boolean data type in PHP can hold which two possible values?**

A. Zero and One B. True and False C. Yes and No
D. On and Off

Correct Answer: B

11. **Which operator is used to check if two values are equal in value AND equal in data type (strict equality)?**

A. == B. != C. === D. !==

Correct Answer: C

12. **Which of the following is used to define a constant in PHP?**

A. The \$const keyword B. The define() function or const keyword
C. The var keyword D. The global keyword

Correct Answer: B

13. **What is the purpose of the Ternary Operator (? :)?**

A. To perform a simple mathematical calculation.
B. To define a namespace.
C. To execute a conditional expression and return one of two values.
D. To include external files.

Correct Answer: C

14. **What is the correct way to output a string and a variable value together using variable interpolation within double quotes?**

A. echo 'The user is \$name.';
B. echo "The user is " . \$name;
C. echo "The user is \$name.";
D. echo 'The user is ' . \$name . ' ';

Correct Answer: C

15. **Which statement is used to exit or skip the rest of the current iteration in a loop and immediately proceed to the next iteration?**

A. break B. return C. exit D. continue

Correct Answer: D

16. **Which of the following PHP variable types is considered a Compound Type?**

A. Boolean B. Integer C. Array D. String

Correct Answer: C

17. **What does the Arithmetic Operator % (Modulus) return?**

A. The division of two numbers.
B. The remainder of an integer division.
C. The sum of two numbers.
D. The power of one number raised to another.

Correct Answer: B

18. **Which of the following is the correct syntax for an if statement?**

A. if (\$condition) {\$code;}
B. if (\$condition) \$code;
C. if: \$condition then \$code;

D. Both A and B

Correct Answer: D

19. **What is the difference in behavior between the include and require statements when the specified file is not found?**

A. include halts script execution; require issues a warning and continues.
B. require halts script execution; include issues a warning and continues.
C. Both halt script execution with a fatal error.
D. Both issue a warning and continue execution.

Correct Answer: B

20. **A variable defined outside any function is considered to be in the:**

A. Local scope B. Global scope C. Superglobal scope D. Static scope

Correct Answer: B

21. **Which keyword must be used inside a function to access a variable defined in the global scope?**

A. static B. global C. const D. public

Correct Answer: B

22. **Which control structure is ideal for testing a single expression against a series of different possible values?**

A. if-else if-else chain B. for loop C. switch statement D. while loop

Correct Answer: C

23. **Which comparison operator is the logical OR operator?**

A. && B. || C. and D. or

Correct Answer: B

24. **What is the purpose of the Assignment Operator (=) in PHP?**

A. To test for equality.
B. To assign a value to a variable.
C. To compare data types.
D. To perform a logical check.

Correct Answer: B

25. **What is a Superglobal variable in PHP?**

A. A variable that can only be accessed inside functions.
B. A constant whose value cannot be changed.
C. A built-in array variable accessible from any scope in the script.
D. A variable that only stores integer values.

Correct Answer: C

26. **How can you define a multi-line comment in PHP?**

A. // Comment line 1

B. /* Comment line 1

Comment line 2 */

C.

D. ### Comment line 1 ###

Correct Answer: B

27. **If a developer needs a loop that is guaranteed to execute its code block at least once, even if the condition is initially false, which loop should be used?**

A. while loop B. do-while loop C. for loop D. foreach loop

Correct Answer: B

28. **What is the difference between echo and print?**

A. print can output multiple arguments; echo cannot.

B. echo has a return value of 1; print has no return value.

C. echo is slightly faster and has no return value; print has a return value of 1.

D. print is used for outputting HTML; echo is used for debugging.

Correct Answer: C

29. **When a value is assigned to a variable without quotes, what data type is PHP most likely to assume for that value?**

A. String B. Boolean C. Null D. Numeric (Integer or Float)

Correct Answer: D

30. **Which arithmetic assignment operator correctly performs subtraction and then assigns the new value?**

A. \$-= B. *-= C. -- D. -=

Correct Answer: D

Chapter 4:

1. **Which keyword is used to define a custom function in PHP?**

A. func B. function C. def D. method

Correct Answer: B

2. **What is an argument (or parameter) in the context of a PHP function?**

A. A variable defined inside the function's body.

B. A value passed to the function when it is called.

C. The function's return value.

D. The function's name.

Correct Answer: B

3. **What is the purpose of the return statement within a function?**
A. To immediately stop the script's execution.
B. To jump to a specified line of code.
C. To send a value back to the code that called the function.
D. To define a function's arguments.

Correct Answer: C

4. **What is the scope of a variable declared inside a function (without using the global keyword)?**
A. Global scope B. Local scope C. Static scope D. Superglobal scope

Correct Answer: B

5. **When an argument is passed to a function by value, what happens to the original variable?**
A. The original variable is permanently overwritten.
B. The function receives a copy; changes inside do not affect the original variable.
C. The function receives a direct reference; changes affect the original variable.
D. The variable becomes global.

Correct Answer: B

6. **How can you force a function to receive an argument by reference?**
A. By using the global keyword.
B. By using the reference keyword before the function name.
C. By preceding the parameter name in the function definition with an ampersand (&).
D. By preceding the function call with the ref keyword.

Correct Answer: C

7. **Which PHP statement is used to include an external script file containing function definitions, ensuring the file is only included once even if called multiple times?**
A. include B. require C. include_once or require_once D. import

Correct Answer: C

8. **What is a recursive function?**
A. A function that is never called.
B. A function that returns another function.
C. A function that calls itself repeatedly until a base condition is met.
D. A function that requires external files.

Correct Answer: C

9. **Which data type is automatically assumed for a parameter that is given a default value in the function definition?**
A. String B. Integer C. The type of the

default value provided D. Boolean

Correct Answer: C

10. **What is the correct way to call a function named calculateTotal that takes two arguments, \$a and \$b?**
A. function calculateTotal(\$a, \$b);
B. calculateTotal(\$a, \$b);
C. new calculateTotal(\$a, \$b);
D. call calculateTotal(\$a, \$b);

Correct Answer: B

11. **What is the benefit of using Type Declarations (type hinting) for function parameters?**
A. It guarantees faster code execution.
B. It forces the function to use the global scope.
C. It enforces that arguments passed are of the expected data type, improving robustness.
D. It automatically converts the argument to the correct type.

Correct Answer: C

12. **Which of the following is the correct syntax for a function definition with a return type declaration of array?**
A. function get_list() : array { ... }
B. function array get_list() { ... }
C. function get_list(array) { ... }
D. function get_list() => array { ... }

Correct Answer: A

13. **A variable function (or dynamic function call) is possible in PHP by:**
A. Defining a variable with the name of a function's argument.
B. Placing the function's name inside quotes when calling it.
C. Assigning a string containing the function's name to a variable and then calling the variable.
D. Using the call_func() built-in function.

Correct Answer: C

14. **What is the purpose of the static keyword when declaring a variable inside a function?**
A. It makes the variable accessible globally.
B. It initializes the variable only once and retains its value between function calls.
C. It makes the variable's value immutable.
D. It defines the variable as a class constant.

Correct Answer: B

15. **What happens if a function is called without providing an argument for a parameter that does not have a default value?**
A. The function uses a null value.

- B. A fatal error is generated, halting script execution.
C. The function automatically assigns 0.
D. The argument is set to an empty string.
Correct Answer: B

16. **What determines the function's ability to be a Variadic Function (accepting a variable number of arguments)?**

- A. The use of the global keyword.
B. The use of the splat operator (...) before the parameter name.
C. Defining the function as public.
D. Returning an array of arguments.

Correct Answer: B

17. **What is the difference between defining a parameter with a default value and making an argument optional via Type Declaration?**

- A. No difference; they are interchangeable.
B. Optional arguments must use type declarations; default values don't require them.
C. A parameter with a default value is inherently optional; Type Declarations ensure the type is correct if provided.
D. Default values are only for strings.

Correct Answer: C

18. **Which function is used to check if a specific function has been defined and is available for use?**

- A. `function_exists()` B. `is_function()` C. `has_function()` D. `get_defined_functions()`

Correct Answer: A

19. **What are Anonymous Functions (or closures)?**

- A. Functions defined inside a class.
B. Functions stored in a file named after the function.
C. Functions defined without a name and stored in a variable or passed as an argument.
D. Functions that can only be called once.

Correct Answer: C

20. **In a recursive function, the base case is essential because:**

- A. It defines the function's argument types.
B. It determines when the recursion should stop.
C. It is the value returned by the function.
D. It defines the global variables used.

Correct Answer: B

21. **Which PHP built-in function returns an array containing the names of all user-defined functions?**

- A. `get_declared_classes()` B.

- `get_defined_functions()` C.
`get_user_funcs()` D. `function_list()`

Correct Answer: B

22. **When passing a string containing HTML to a function for processing, the function's primary goal should be:**

- A. To ignore the HTML tags.
B. To escape or validate the input to prevent XSS attacks.
C. To convert the string to an array.
D. To output the string exactly as received.

Correct Answer: B

23. **Which keyword is used in a closure to import variables from the surrounding scope into the function's body?**

- A. `use` B. `import` C. `global` D. `closure`

Correct Answer: A

24. **The concept of Function Overloading (same name, different arguments) is:**

- A. Fully supported in PHP.
B. Possible only with magic methods.
C. Not supported directly, but similar behavior via default arguments or splat operator.
D. A fundamental feature of PHP 7+.

Correct Answer: C

25. **What is the recommended way to enforce that a function parameter is a callable entity?**

- A. Use the array type hint.
B. Use the callable type hint.
C. Use the string type hint.
D. There is no type hint for callable functions.

Correct Answer: B

26. **If a function does not contain a return statement, what value does it implicitly return?**

- A. An empty string ("") B. 0 C. NULL
D. The last variable defined in the function

Correct Answer: C

27. **How should functions be named in PHP to follow common coding standards?**

- A. Using camelCase or snake_case B. ALL CAPS C. Starting with a number D. Using special characters

Correct Answer: A

28. **Which of the following is an example of an internal (built-in) PHP function?**

- A. `my_custom_func()` B. `calculate_tax()`
C. `str_replace()` D. `database_connect()`

Correct Answer: C

29. Which function is used to retrieve an array of the arguments passed to the current function?

- A. get_arguments()
- B. func_get_args()
- C. arguments_list()
- D. get_params()

Correct Answer: B

30. A pure function in programming is one that:

- A. Only uses global variables.
- B. Only uses built-in PHP functions.
- C. Always returns the same result for the same inputs and has no side effects.
- D. Requires no parameters.

Correct Answer: C

Chapter 5:

1. Which of the following is the primary purpose of an array in PHP?

- A. To store a single, immutable value.
- B. To store a collection of values under a single variable name.
- C. To perform mathematical operations.
- D. To define a class structure.

Correct Answer: B

2. What is the main difference between an indexed array and an associative array in PHP?

- A. Indexed arrays use string keys; associative arrays use numeric keys.
- B. Indexed arrays use numeric keys starting from 0; associative arrays use string keys (or custom numeric keys).
- C. Associative arrays are faster than indexed arrays.
- D. Indexed arrays can only store strings, while associative arrays can store any type.

Correct Answer: B

3. Which function is typically used to count the number of elements in a PHP array?

- A. size()
- B. length()
- C. count()
- D. total()

Correct Answer: C

4. What is the correct way to define an indexed array using the short array syntax (PHP 5.4+)?

- A. \$arr = {}
- B. \$arr = []
- C. \$arr = array()
- D. \$arr = list()

Correct Answer: B

5. Which loop is specifically designed to iterate through the key/value pairs of an array in PHP?

- A. while loop
- B. for loop
- C. do-while loop
- D. foreach loop

Correct Answer: D

6. How do you access the value associated with the key 'city' in an associative array named \$user_data?

- A. \$user_data.city
- B. \$user_data('city')
- C. \$user_data['city']
- D. \$user_data->city

Correct Answer: C

7. Which function is used to add one or more elements to the end of an indexed array?

- A. array_shift()
- B. array_unshift()
- C. array_push()
- D. array_pop()

Correct Answer: C

8. What is a multidimensional array?

- A. An array that can only hold numbers and strings.
- B. An array where each element is itself an array.
- C. An array that can be accessed globally.
- D. An array that is defined outside a function.

Correct Answer: B

9. Which operator is used to combine two arrays, appending the elements of the second array to the first (preserving keys unless they are numeric duplicates)?

- A. The plus sign (+)
- B. The dot (.)
- C. The double pipe (||)
- D. The ampersand (&)

Correct Answer: A

10. Which function is used to remove and return the last element from an array?

- A. array_shift()
- B. array_pop()
- C. array_splice()
- D. unset()

Correct Answer: B

11. Which function is used to check if a specific key exists in an array?

- A. isset()
- B. key_exists() or array_key_exists()
- C. array_contains()

D. in_array()

Correct Answer: B

12. The `asort()` function sorts an array by its:
- A. Keys, in ascending order.
 - B. Values, in ascending order, maintaining key-value associations.
 - C. Keys, in reverse order.
 - D. Values, in descending order.

Correct Answer: B

13. Which function is used to check if a specific value exists in an array?
- A. `isset()`
 - B. `key_exists()`
 - C. `array_value_exists()`
 - D. `in_array()`

Correct Answer: D

14. What is the effect of using `unset($array['key'])` on an array element?
- A. It sets the element's value to NULL.
 - B. It sets the key to an empty string.
 - C. It completely removes the key-value pair from the array.
 - D. It renames the key to an empty string.

Correct Answer: C

15. What is array key casting?
- A. Converting all array keys to lowercase.
 - B. PHP automatically converting string keys that look like integers (e.g., '10') into numeric keys.
 - C. Manually converting array keys to a floating-point type.
 - D. Renaming the key of an array element.

Correct Answer: B

16. Which function sorts an array by its keys in ascending order?
- A. `asort()`
 - B. `ksort()`
 - C. `sort()`
 - D. `rsort()`

Correct Answer: B

17. What does the function `array_reverse()` return?
- A. The original array with its keys reset.
 - B. The original array with the elements in reverse order.
 - C. A new array with elements in reverse order (keys may or may not be preserved depending on the second argument).
 - D. The first element of the array.

Correct Answer: C

18. When using the `foreach` loop, what does the second variable hold in the syntax `foreach ($array as $key => $value)`?

A. The array element's key.

B. The entire array.

C. The array element's value.

D. The loop counter.

Correct Answer: C

19. What is the purpose of the `array_diff()` function?
- A. To return the elements common to both arrays.
 - B. To compute the difference between two arrays (values existing in the first array but not in the second).
 - C. To merge two arrays together.
 - D. To reverse the order of elements in an array.

Correct Answer: B

20. Which function is used to remove a section of an array and replace it with new elements, simultaneously?
- A. `array_slice()`
 - B. `array_pop()`
 - C. `array_splice()`
 - D. `array_chunk()`

Correct Answer: C

21. Which built-in function can be used to convert an array into a delimited string?
- A. `array_to_string()`
 - B. `implode()` or `join()`
 - C. `explode()`
 - D. `str_split()`

Correct Answer: B

22. To randomly change the order of elements in an array, which function should be used?
- A. `shuffle()`
 - B. `sort()`
 - C. `rand_array()`
 - D. `array_reverse()`

Correct Answer: A

23. What is the primary use case for the `list()` language construct?
- A. To create a new array.
 - B. To assign array elements to a list of variables in one operation.
 - C. To check the existence of a variable.
 - D. To convert a string to an array.

Correct Answer: B

24. The function `extract()` performs what action?
- A. It retrieves a subset of elements from an array.
 - B. It imports variables from the global scope into a function.
 - C. It imports variables from the local scope into the global scope.

D. It imports array entries into the current symbol table as variables.

Correct Answer: D

25. Which of the following is an example of an array callback function used to process every element?

A. array_search()
B. array_map()
C. array_merge()
D. array_keys()

Correct Answer: B

26. If an array is created with elements \$arr = [10, 20, 30], what key is used to access the value 20?

A. 1
B. 0
C. 2
D. 20

Correct Answer: A

27. What is the function that converts a delimited string into an array?

A. implode()
B. explode()
C. str_to_array()
D. split()

Correct Answer: B

28. What is the expected behavior if you attempt to access an array key that does not exist?

A. A fatal error will halt the script.
B. A warning or notice will be issued, and the result will be NULL.
C. PHP will automatically create the key with a NULL value.
D. The script will continue silently with an empty string.

Correct Answer: B

29. Which sorting function sorts an array by its values in ascending order, but resets the keys to numerical indexes (0, 1, 2...)?

A. asort()
B. ksort()
C. sort()
D. arsort()

Correct Answer: C

30. Which function can be used to generate a new array consisting only of the keys from an existing array?

A. array_get_keys()
B. array_values()
C. array_keys()
D. —

Correct Answer: C

Chapter 6: Object-Oriented PHP

1. What is the core concept of Object-Oriented Programming (OOP) in PHP?

A. Writing code in a single file for faster execution.
B. Organizing code around **objects**, which are instances of **classes**.
C. Using only procedural functions without variables.
D. Writing code that can only run on Windows servers.

Correct Answer: B

2. What is a **Class** in PHP OOP?

A. A variable that holds an array of data.
B. A specific instance of an object.
C. A **blueprint** or template for creating objects.
D. A built-in PHP function for database access.

Correct Answer: C

3. What is the keyword used to create a new instance of a class (an object)?

A. class
B. object
C. new
D. instance

Correct Answer: C

4. Which of the following is NOT one of the three main pillars of Object-Oriented Programming?

A. Encapsulation
B. Inheritance
C. **Abstraction**
D. Polymorphism

Correct Answer: C

5. What is a **Property** (or attribute) in a PHP class?

A. A function that performs an action.
B. A method used to create the object.
C. A **variable** that holds data specific to the object.
D. A keyword used for inheritance.

Correct Answer: C

6. How do you access a property or method of an object from **outside** the class?

A. Using the dot operator (.).
B. Using the double-colon operator (::).
C. Using the arrow operator (->).
D. Using the equals sign (=).

Correct Answer: C

7. Which keyword is used to define the scope of a class member, making it accessible from anywhere (inside or outside the class)?

- A. private
- B. protected
- C. static
- D. public

Correct Answer: D

8. The **private** visibility modifier means a property or method can be accessed from:
- A. Anywhere in the code.
 - B. Only within the class where it is defined.
 - C. Within the class and any descendant classes.
 - D. Only in the global scope.

Correct Answer: B

9. What is the name of the special method that is automatically called when a new object is created?
- A. `__destroy()`
 - B. `__new()`
 - C. `__construct()`
 - D. `__init()`

Correct Answer: C

10. What is a **Method** in a PHP class?
- A. A variable that stores data.
 - B. A **function** that defines the behavior or action of the object.
 - C. A keyword used for class definition.
 - D. The blueprint of the object.

Correct Answer: B

11. What keyword is used within a class method to refer to the current object instance?
- A. `self`
 - B. `this`
 - C. `parent`
 - D. `static`

Correct Answer: B

12. The concept of **Encapsulation** primarily involves:
- A. Allowing all properties to be public.
 - B. Grouping data (properties) and the methods that operate on that data, while controlling access.
 - C. Allowing an object to take many forms.
 - D. Creating new objects from a parent class.

Correct Answer: B

13. What is the role of the special method `__destruct()`?
- A. It is called when a class is first loaded into memory.
 - B. It prevents the object from being copied.
 - C. It is automatically called when all references to an object are removed or the script ends.

D. It is used to initialize class properties.

Correct Answer: C

14. The **protected** visibility modifier means a property or method can be accessed from:
- A. Only the global scope.
 - B. Only within the class where it is defined.
 - C. Within the class and any classes that **inherit** from it.
 - D. Only via static methods.

Correct Answer: C

15. What is the keyword used to enable one class to inherit the properties and methods of another class?
- A. `implements`
 - B. `uses`
 - C. `inherits`
 - D. `extends`

Correct Answer: D

16. What is the parent class typically called in an inheritance relationship?
- A. The Child Class
 - B. The **Base** Class or Super Class
 - C. The Derived Class
 - D. The Instance Class

Correct Answer: B

17. When a subclass overrides a method in its parent class, and you need to call the original parent method from within the subclass, which keyword should you use?
- A. `this->`
 - B. `self::`
 - C. `parent::`
 - D. `static::`

Correct Answer: C

18. **Polymorphism** in OOP is the concept that:
- A. All classes must have a constructor.
 - B. An object can take on **many forms**, typically through inheritance and method overriding.
 - C. All properties must be private.
 - D. A class can only inherit from one parent.

Correct Answer: B

19. Which keyword is used to declare a property or method that belongs to the **class itself** rather than a specific instance of the object?
- A. `const`
 - B. `public`
 - C. `static`
 - D. `abstract`

Correct Answer: C

20. How are static properties or methods accessed from **outside** the class?
- A. Using the arrow operator (`->`).
 - B. Using the new keyword.

C. Using the double-colon operator (::) with the class name.

D. Using the parent:: keyword.

Correct Answer: C

21. What is the purpose of the **const** keyword when used inside a class?
- A. To define a variable that can be changed by any method.
 - B. To define an **immutable value** (a constant) that belongs to the class.
 - C. To define a static method.
 - D. To define a private property.

Correct Answer: B

22. Within a static method, you cannot use the **\$this** keyword because:
- A. **\$this** refers to the parent class.
 - B. **\$this** refers to a specific **instance** of the class, and static methods are not tied to an instance.
 - C. Static methods cannot access any properties.
 - D. Static methods are always private.

Correct Answer: B

23. When accessing a static property from **within** the same class, which keyword is typically used?
- A. **this**
 - B. **parent**
 - C. **self** or **static**
 - D. **new**

Correct Answer: C

24. A method that is designed solely to retrieve the value of a private property is commonly known as a(n):
- A. Mutator
 - B. **Getter**
 - C. Constructor
 - D. Destructor

Correct Answer: B

25. A method that is designed solely to set or modify the value of a private property is commonly known as a(n):
- A. **Setter** or Mutator
 - B. Getter
 - C. Accessor
 - D. Handler

Correct Answer: A

26. Which of the following is the correct syntax for defining a constant within a class named **User**?
- A. `$this->MAX_USERS = 100;`
 - B. `public $MAX_USERS = 100;`
 - C. `const MAX_USERS = 100;`

D. `static $MAX_USERS = 100;`

Correct Answer: C

27. If an object is created from a class, and then copied using the assignment operator (`$copy = $original`), what does the variable `$copy` hold by default?
- A. A complete, independent copy of the object.
 - B. A **reference** to the original object.
 - C. A null value.
 - D. A string representation of the object.

Correct Answer: B

28. To create a true, deep copy of an object, you must use which keyword before the assignment operator?
- A. **ref**
 - B. **static**
 - C. **clone**
 - D. **new**

Correct Answer: C

29. What is the role of **Type Hinting** (Type Declarations) when used with class methods?
- A. It forces the method to be static.
 - B. It allows the method to accept any type of argument.
 - C. It guarantees that a method's arguments or return value are of a specific class or interface type.
 - D. It makes the method private.

Correct Answer: C

30. If a developer uses the magic method **__toString()** in a class, what is the purpose of this method?
- A. To automatically log error messages.
 - B. To define how an object should be represented when treated as a string (e.g., when echoing it).
 - C. To convert an array property into a string.
 - D. To define a static property.

Correct Answer: B

Chapter 7: Advanced Object-Oriented PHP

1. What is the primary purpose of an **Abstract Class** in PHP?
- A. It prevents any other class from inheriting from it.
 - B. It is a class that **cannot be instantiated** but

serves as a blueprint for its subclasses, often containing abstract methods.

C. It contains only static properties and methods.

D. It defines a required set of properties for all descendant classes.

Correct Answer: B

2. What is an **Abstract Method**?

A. A private method that can never be accessed.

B. A method that is defined with an empty body and must be **implemented by any non-abstract subclass**.

C. A method that belongs to the parent class.

D. A method that automatically returns NULL.

Correct Answer: B

3. Which keyword is used to declare an abstract class or an abstract method?

A. interface

B. parent

C. abstract

D. final

Correct Answer: C

4. What is the purpose of an **Interface** in PHP?

A. To provide concrete implementation details for a class.

B. To **define a contract** (a set of public methods) that any implementing class must adhere to.

C. To replace the use of the extends keyword.

D. To make all class properties private.

Correct Answer: B

5. Which keyword does a class use to adopt the contract defined by an interface?

A. extends

B. uses

C. implements

D. defines

Correct Answer: C

6. What happens if a class implements an interface but fails to define all of the interface's methods?

A. The missing methods are automatically added as abstract methods.

B. The class will not function, but no error is generated.

C. A **fatal error** is generated, as the contract is violated.

D. The interface is automatically ignored.

Correct Answer: C

7. Which keyword is used to prevent a class from being inherited by any other class?

A. abstract

B. protected

C. final

D. sealed

Correct Answer: C

8. Which keyword is used to prevent a specific method from being overridden in a subclass?

A. abstract

B. static

C. final

D. private

Correct Answer: C

9. What is a **Trait** in PHP?

A. A mechanism for achieving **horizontal reuse** of methods and properties across unrelated classes.

B. A replacement for interfaces.

C. A global variable container.

D. A special class that can only contain constants.

Correct Answer: A

10. Which keyword is used inside a class definition to incorporate methods from a trait?

A. implements

B. extends

C. uses

D. incorporate

Correct Answer: C

11. What happens if a class tries to use two traits that both define a method with the exact same name?

A. PHP automatically chooses the method from the first trait listed.

B. A **fatal error** is generated, requiring the use of the `insteadof` operator for conflict resolution.

C. The method is automatically made private.

D. The second trait's method automatically overrides the first.

Correct Answer: B

12. What is the primary role of a **Namespace** in PHP?

A. To define constants that are accessible globally.

B. To encapsulate classes, interfaces, functions, and constants to prevent **name collision** with external libraries.

C. To specify the visibility of properties and methods.

D. To define the order in which files are loaded.

Correct Answer: B

13. Which keyword is used to define a namespace at the beginning of a PHP file?

- A. scope
- B. namespace
- C. group
- D. package

Correct Answer: B

14. Which keyword is used to import a class or namespace into the current file under an alias or its real name for easier use?

- A. include
- B. require
- C. import
- D. use

Correct Answer: D

15. When accessing a class within the same namespace, the class is considered to be **relative** to the current namespace. What type of class is fully specified using its leading namespace name?

- A. A local class
- B. A **fully qualified** class name
- C. An abstract class
- D. A parent class

Correct Answer: B

16. Which of the following best describes the **Singleton** design pattern?

- A. A pattern that allows a class to have **only one instance** throughout the entire application runtime.
- B. A pattern that requires a class to have only static methods.
- C. A pattern that prevents inheritance.
- D. A pattern that ensures all class properties are private.

Correct Answer: A

17. The Singleton pattern is typically enforced by making the constructor of the class:

- A. Public
- B. Static
- C. **Private** or Protected
- D. Abstract

Correct Answer: C

18. Which PHP built-in mechanism is used to serialize all of an object's properties into a string for storage or transmission?

- A. JSON encoding
- B. **Object Serialization** (using `serialize()`)
- C. The `__toString()` method
- D. Type casting to a string

Correct Answer: B

19. Which magic method is automatically invoked when an object is serialized using `serialize()`?

- A. `__construct()`
- B. `__sleep()`
- C. `__wake()`
- D. `__destruct()`

Correct Answer: B

20. Which magic method is automatically invoked when an object is reconstituted (deserialized) using `unserialize()`?

- A. `__construct()`
- B. `__sleep()`
- C. `__wakeup()`
- D. `__init()`

Correct Answer: C

21. What is the purpose of the **instanceof** operator?

- A. To check if two objects are identical.
- B. To check if an object is an **instance of a particular class, interface, or trait**.
- C. To create a new object instance.
- D. To retrieve a static property.

Correct Answer: B

22. When a trait has a method conflict, which operator allows the developer to specify which trait's method should be used?

- A. alias
- B. final
- C. insteadof
- D. override

Correct Answer: C

23. In the context of traits, what does the **as** operator allow the developer to do?

- A. To make a trait method abstract.
- B. To give a conflicting trait method an **alias** (a new name) to resolve the conflict.
- C. To declare a static property.
- D. To inherit all methods from a different class.

Correct Answer: B

24. The `::class` magic constant is used to retrieve:

- A. The object's current instance.
- B. The **fully qualified class name** as a string.
- C. A list of all methods in the class.
- D. The parent class name.

Correct Answer: B

25. What is the primary benefit of using interfaces in conjunction with polymorphism?

- A. It makes every method private.
- B. It allows different objects to be treated in the same way, as long as they adhere to the **same contract**.
- C. It prevents all runtime errors.
- D. It is required for static method access.

Correct Answer: B

26. A method is declared final in a parent class. If a subclass attempts to redefine this method, what will occur?
- A. The parent's method will be silently overwritten.
 - B. A **Fatal Error** will occur at runtime.
 - C. The method will automatically become abstract.
 - D. The method will be automatically renamed in the subclass.

Correct Answer: B

27. What is the default visibility for a method declared in an **interface**?
- A. Private
 - B. Protected
 - C. **Public**
 - D. Abstract

Correct Answer: C

28. In the context of namespaces, what is a common alias used for the root (global) namespace?
- A. ROOT\
 - B. GLOBAL\
 - C. A **leading backslash (\)**
 - D. __ROOT__

Correct Answer: C

29. The magic constant `__NAMESPACE__` contains:
- A. The current class name.
 - B. The name of the **current namespace** as a string.
 - C. The file path of the current script.
 - D. The name of the parent class.

Correct Answer: B

30. Why is creating an Abstract Class generally preferred over creating an Interface when some default implementation logic is required?
- A. Interfaces cannot define constants.
 - B. Interfaces cannot be inherited.
 - C. **Abstract classes can define and implement some concrete methods,** while interfaces can only define method signatures (contracts).
 - D. Abstract classes are faster to execute.

Correct Answer: C