

-->ALAA ZAKARYIA's ANSWERS

Full Stack PHP Developer Technical Test

Part 1: IQ Test:

1. Which number comes next in the sequence: 1, 2, 4, 7, ...?

- a) 10
- b) 11
- c) 12**
- d) 13

comment: c) 12 adding next prime number every term.

2. What is the sum of the numbers from 1 to 5?

- a) 10
- b) 12
- c) 15**
- d) 20

comment: c) $1+2+3+4+5=15$

3. A car travels 300 kilometers in 5 hours. What is its average speed in kilometers per hour?

- a) 50 km/h
- b) 60 km/h**
- c) 75 km/h
- d) 100 km/h

comment: $\text{speed} = \text{distance} / \text{time} = 300 / 5 = 60 \text{ km/h}$

4. In a certain code, "MORNING" is written as "NPSJOHI." How would you write "EVENING" in the same code?

- a) FWFMOHO
- b) FWFNHOI
- c) FWEOHOI
- d) FWFNHPI

comment: rotating or shifting every letter to its next in alphabetical order

5. A man has 53 socks in his drawer: 21 identical blue, 15 identical black, and 17 identical red. The room is dark, and he cannot see the colors. What is the minimum number of socks he needs to take out of the drawer to ensure he has at least one matching pair?

- a) 2
- b) 3
- c) 4
- d) 5

comment: let's assume that they are ordered in row by colour so I would draw one from start then one from the end then one from middle. now I think I have three unmatched socks. the if I draw the fourth from any where I think I would be sure I have one matched pair

6. A train is 120 meters long and travels at 60 km/h. How long does it take to pass through a 360-meter-long tunnel?

- a) 18 seconds
- b) 24 seconds
- c) 36 seconds
- d) 48 seconds

comment: for the train to pass the tunnel the entrance of its front point and the exit of its rear to assure full pass the the true tunnel length would equal tunnel length + 2x train length = $360 + 2 \times 120 = 600\text{m} = 0.6\text{ km}$ then time = distance / velocity = $0.6/60 = 0.01\text{ h} = 36\text{sec}$

7. What is the next number in the series? 3, 8, 18, 38, 78, ?

- a) 128
- b) 148
- c) 158
- d) 168

adding 5×2^n where n is the term number

8. A man buys a horse for \$60, sells it for \$70, buys it back for \$80, and sells it again for \$90. How much profit did he make in total?

- a) \$0
- b) \$10
- c) \$20
- d) \$30

comment: assuming that he has more capital to afford invest increased price for persuasion in the second time

9. If all blarks are widgets, and some widgets are gizmos, which of the following statements must be true?

- a) All widgets are blarks.
- b) All gizmos are blarks.
- c) All blarks are gizmos.
- d) Some widgets are blarks.

comment: it is the first time for me to encounter word blark a slang term and according to urban dictionary the long speech about something unknown while your friends pretending they understand :) .

Part 2: Technical Multiple-choice questions

2.1 What is the use of the "use" keyword in PHP?

- A) To include a file
- B) To import a namespace
- C) To create an alias for a class
- D) To define a constant

comment: ie creating shortcut or symbolic link in the current namespace

2.2 Which of the following is NOT a superglobal variable in PHP?

- a. \$_SERVER
- b. \$_POST
- c. \$_SESSION
- d. \$_FILE

comment: it should be \$_FILES

2.3 What does the CSS "box-sizing" property do?

- A) Defines how the width and height of an element are calculated
- B) Determines the position of an element within its container
- C) Controls the size of an element's background image
- D) Sets the margin and padding of an element

comment: I think it is to make padding be included in height and width which solved the effort of subtracting them from divs to make them well aligned or all as required related

2.4 What is the primary purpose of the CSS "z-index" property?

- A) Control an element's horizontal positioning
- B) Control an element's vertical positioning
- C) Control an element's stacking order
- D) Control an element's opacity

comment: a true use case is the resolving of coloured intersecting lines to show which in foreground and which in the background

1.5 What command in Git would you use to create a new branch?

- A) git branch <branch_name>
- B) git checkout -b <branch_name>
- C) git new-branch <branch_name>
- D) git create-branch <branch_name>

comment: you can use git checkout -b <branchname> to create new branch and switching to it in one step

2.6 Which of the following Git commands can be used to resolve conflicts when merging a feature branch into the main branch?

- A. git rebase
- B. git merge
- C. git cherry-pick
- D. git reset

comment: I think an easier way to resolve conflicts in merging is to open conflicted file and searchin for conflicting marks ie <<<<<<<<<<<<<<<branch x and >>>>>>>>>>>>>>>branch y and remove one of them with its contents and then issuing git commit to complete merging

2.7 Which of the following is NOT a best practice for securing web applications?

- a. Sanitizing user input to prevent injection attacks
- b. Using secure communication protocols (e.g. HTTPS) to protect data in transit
- c. Hiding sensitive data in client-side JavaScript code
- d. Implementing access controls to restrict user access to sensitive resources

comment: you can not assure the security of client side so the data is not safe

2.8 Which of the following is the correct way to define a named route in Laravel?

- a. `Route::get('/users', 'UsersController@index')->name('users');`
- b. `Route::get('/users', 'UsersController@index')->as('users');`
- c. `Route::get('/users', 'UsersController@index')->routeName('users');`
- d. `Route::get('/users', 'UsersController@index', ['name' => 'users']);`

2.9 Which of the following is NOT a feature of Laravel's Eloquent ORM?

- a. Object-relational mapping
- b. Query builder
- c. Migrations
- d. Route caching

Part 3: Coding exercises

1-DB

Create a simple MySQL DB that has only one table for users that will store First Name, Last Name and user image Path, the app will use this table for soft-delete only.

2-Front End

create a form that will have :

A-three required input fields for first name, last name and user image upload.

B-The page has to be responsive with three columns for each field on desktop and one column on mobile devices with the three fields on top of each other.

C-The Form have to use CSRF token security

D-use JS to make sure it's a valid image before upload and then display thumbnail for the uploaded image

3-Back End

Handle form submit and save to DB and make sure that the uploaded file is an image and is not larger than 2MB.

Part 4: Laravel Coding exercises

1 Set up a new Laravel project and create a simple CRUD application for managing a "tasks" resource. Use Eloquent ORM for database operations, Blade templates for views, and implement basic validation for user inputs.

2 Implement a simple user authentication system in your Laravel project using the built-in authentication scaffolding. Customize the registration process to include a user's first name and last name, and display the user's full name in the navigation bar when they are logged in.