Everlytic Developer Assessment

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*Please complete the answers to the questions below. The assessment should take roughly 30 minutes.*

* What is the difference between public, protected and private in a class definition?

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| A public class allows you to use the class and its methods, variables etc from anywhere else outside the application |
| A protected class is one that can have its methods used only in the same class or another class that inherits the protected class |
| A private class is one that can only have its methods used inside itself, not even in a class that inherits said class |

* Given this code:  
    
  function doSomething(&$foo) {  
   $bar = $foo;  
   $foo += 1;  
   return $foo;  
  }  
  $value = 3;  
  $result = doSomething($value);  
  echo "value: $value, result: $result";  
    
  What will be output to screen and why?

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| value: 4, result: 4. This is because $value itself is modified by the function doSomething. The same thing happens with the Carbon library for easy date times and it gets annoying |
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* What is wrong with this query: "SELECT \* FROM table WHERE id = $\_POST[ 'id' ]"?

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| It directly uses input from a post request, probably a form on a website without sanitizing it against sql injection attacks |
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* What is the cause of this warning: 'Warning: Cannot modify header information - headers already sent', and what is a good practice to prevent it?

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| It's usually whitespace, random characters before the first mention of <?php, or actual html tag stuff before the beginning of the php stuff. It could also be characters that are invisible in your ide or text editor. To prevent it use headers\_sent(), or more likely use make sure output\_buffering is on in php.ini, or if you are on shared hosting, try the htaccess file |
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* What is wrong with this code:  
    
  class Foo  
  {  
   protected $bar;  
     
   public function \_\_construct()  
   {  
   $this->bar = 1;  
   }  
    
   public static function doSomething()  
   {  
   return $this->bar;  
   }  
  }

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| The function is declared as static but then uses a variable from the constructor, which is a function that is done when instantiating the class. Since the function is declared as static these two things are mutually exclusive |
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* Write a program that prints the numbers from 1 to 100. But for multiples of three print "Fizz" instead of the number and for the multiples of five print "Buzz". For numbers which are multiples of both three and five print "FizzBuzz".

for ($i = 1; $i <= 100; $i++) {

if ($i % 15 === 0) {

echo 'FizzBuzz<br>';

} elseif ($i % 3 === 0) {

echo 'Fizz<br>';

} elseif ($i % 5 === 0) {

echo 'Buzz<br>';

} else {

echo $i . '<br>';

}

}

* What does the following code do? Explain what’s going on there.

$date = '08/26/2003';

print preg\_replace('/([0-9]+)\/([0-9]+)\/([0-9]+)/'‚ '$2/$1/$3', $date);

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| It's taking a date that is the dumb US style with the month before the date and then the year and switching it to the correct south african standard of dd/mm/yyyy, in this example it would output 26/08/2003 |
| So its saying take split the string into 3 parts, first put part 2 in position 1, then put part 1 into position 2, then keep part 3 in position 3. |

* Given a line of text $string, how would you write a regular expression to strip all the HTML tags from it?

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| preg\_replace('/<[^>]\*>/', '', $string) |
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* A palindrome is a word that reads the same backward or forward.   
  Write a function that checks is a given word is a palindrome. Characters case should be ignored.  
  EG. Deleveled is a palindrome and should return true as character case is ignored.

*I feel like this you might want me to use that loop version of it which makes my head hurt, so I would rather just do this:*

<?php

class Palindrome

{

public static function isPalindrome($word)

{

$word = strtolower($word);

if (strrev($word) == $word) {

echo 'It is a palindrome';

} else {

echo 'It is not a palindrome';

}

}

}

echo Palindrome::isPalindrome('Deleveled');

* What security issue is prevalent in the code below and how would you fix it?  
  <?php  
  $messageStmt = $db->query('select message\_text from messages where message\_id = 1');  
  $messageStmt->execute();  
  $message = $messageStmt->fetch(PDO::FETCH\_OBJ);  
  ?>  
  <div><?= $message->message\_text; ?></div>  
    
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I can't see an issue with it and am feeling very dumb right now.

* Write an inner join for the following tables  
    
  

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| SELECT \* from User INNER JOIN Address ON User.UserKey = Address.UsrKey; |
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