Everlytic Developer Assessment

Name	Barry Fourie
Date	2020/11/11

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

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

Public - Method/properties can be accessed from outside a class.

Private - Methods/properties can only be accessed within a class.

Protected - Methods/properties can only be access internally, or by child classes.

2. 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?

"value: 4, result: 4", By prepending the ampersand to the argument, if that value is

updated, it will reflect outside the function.

3. What is wrong with this query: "`SELECT * FROM table WHERE id = $_POST[ 'id' ]`"?

$_POST['id'] has not been validated and or escaped (it could contain injected SQL).

$_POST['id'] might be undefined.

4. What is the cause of this warning: 'Warning: Cannot modify header information - headers already sent', and what is a good practice to prevent it?

Functions that update the response headers are attempting to edit it after the server

has already responded with an HTTP response. Don't call any functions after you

5. What is wrong with this code:

```
class Foo
{
    protected $bar;

    public function __construct()
    {
        $this->bar = 1;
    }

    public static function doSomething()
    {
        return $this->bar;
    }
}
```

You cannot use $this within a static function.

6. 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".

```
$index = 1;

while ($index <= 100){

 if($index % 3 == 1 && $index % 5 == 1){

    echo "FizzBuzz";

 }elseif($index % 3 == 1){

   echo "Fizz";

 }elseif($index % 5 == 1){

   echo "Buzz";

 }else{

   echo ($index);

 };
```

```
    $index++;

}
```

7. 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);
```

Searches the $date variable according to the pattern - first input, grouping

the matches and changing the order.

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

/<[^>]*>//g

9. 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.

```php
<?php
class Palindrome
{
  public static function isPalindrome($word)

  {



  }

}

echo Palindrome::isPalindrome('Deleveled');
```
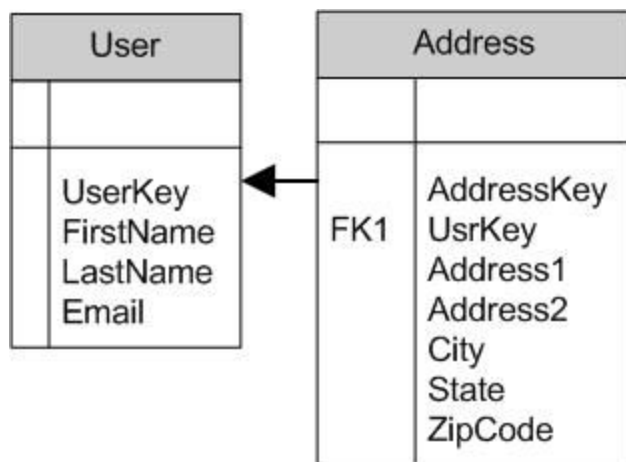
10. What security issue is prevalent in the code below and how would you fix it?

```php
<?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>
```

_____

11. Write an inner join for the following tables

SELECT * FROM User INNER JOIN Address On User.UserKey = Address.UserKey

I assume UsrKey is a typo.