CS3010 Final Exam - Practice:

True or False (1 point each)

1. It is possible to join tables on more than one condition.
2. When working with PHP inside of html code, the scripts are written inside of `<php>` `</php>` elements.
3. POST calls place variables and values in the URL.
4. Dynamic sites render HTML with a backend language on the server side before serving up the HTML to send to the user.
5. PHP is run on pages with a `.html` file extension.
6. Static websites allow for users to enter information and send it to the backend for processing.
7. Dictionaries in PHP access their data with the dot operator.
8. It is possible to store data across multiple page actions with session variables.
9. MySQL is a Document Store type database.
10. Data from the front end of a website can be send to the backend by using the form attribute.

Multiple Choice (4 points each)

1. What would the URL (assuming we're running this locally) be after a user were to click the submit button with the values of:

```html
<!DOCTYPE html>
<html>
  <head>
    <title>
       index.php
    </title>
  </head>
  <body>
    <form action='somePage.php' method='get'>
      Name: <input type='text' name='name'> <br />
      FAVORITE POKEMON: <input type='text' name='favPokemon' /> <br />
      <input type='submit'>
    </form>
  </body>
</html>
```

- http://localhost:8888/index.php
- http://localhost:8888/index.php?name=Matt&favPokemon=snorlax
- http://localhost:8888/somePage.php
- http://localhost:8888/somePage.php?name=Matt&favPokemon=snorlax

2. Given the defined class, which of the below options is how we would create and execute the function `interrupt`?:

```php
1  class KanyeClass {
2      function KanyeClass() {
3          echo "My greatest pain in life is that I will never be able to see
   myself perform live";
4      }
5
6      function interrupt() {
7          echo "Imma let you finish";
8      }
9  }
```

```php
1  $kanye = new KanyeClass();
2  $kanye.interrupt();
```

```php
1  $kanye = new KanyeClass();
2  $kanye->interrupt();
```

```php
1  $kanye = KanyeClass();
2  $kanye->interrupt();
```

```php
1  $kanye = new KanyeClass("Kanye West");
2  $kanye.interrupt();
```

3. Given the below code, how would we access the variables sent from the form?

```
1   <form action='somePage.php' method='post'>
2     Name: <input type='text' name='name'> <br />
3     FAVORITE POKEMON: <input type='text' name='favPokemon' /> <br />
4     <input type='submit'>
5   </form>
```

```
1   $userSubmission = $_GET();
```

```
1   $userNAme = $_GET["name"];
2   $userPokempn = $_GET["favPokemon"];
```

```
1   $userNAme = $_POST["name"];
2   $userPokempn = $_POST["favPokemon"];
```

```
1   $userSubmission = $_POST
```

4. What is would the output of the below code be?

```
1   function countStuff($variable){
2     $wordArray = explode(",", $variable);
3     $numWords = sizeof($wordArray);
4     $totalCount = 0;
5
6     for($i = 0; $i < $numWords; $i++){
7       $wordLength = 0;
8       $wordLength = strlen($wordArray[$i]);
9       $totalCount += $wordLength;
10
11      echo $wordArray[$i]."<br />";
12    }
13
14    $averageLetters = $totalCount / $numWords;
15    echo "The average letters per word are: ".$averageLetters;
16
17
18  }
```

```
19
20   $sentence = "a,b,c ,d e, fg";
21
22   countStuff($sentence);
```

```
1   a
2   b
3   c
4   d e
5   fg
6   The average letters per word are: 2
```

```
1   a,b,c
2   ,de
3   e,
4   fg
5   The average letters per word are: 3
```

```
1   a,b,c
2   d, e
3    fg
4   The average letters per word are: 4
```

```
1   a,b,c
2   ,de
3   e,
4   fg
5   The average letters per word are: 2
```

5. What is the output of the following code?

```
1   function printArray($arr) {
2     $arrLen = sizeof($arr);
3
4     for($i = 0; $i < $arrLen; $i++){
5       echo $arr[$i]." <br />";
6     }
7   }
8
```

```php
 9
10   function arrayManipulation($array){
11     $arrLen = sizeof($array);
12
13     for($i = 0; $i < $arrLen; $i++){
14       $array[$i] = "OVERWRITE";
15     }
16
17     printArray($array);
18   }
19
20
21
22
23
24   $flintstones = ["Fred", "Wilma", "Barney", "Betty"];
25
26   arrayManipulation($flintstones);
27   printArray($flintstones);
```

```
1   OVERWRITE
2   OVERWRITE
3   OVERWRITE
4   OVERWRITE
5   Fred
6   Wilma
7   Barney
8   Betty
```

```
1   Fred
2   Wilma
3   Barney
4   Betty
5   OVERWRITE
6   OVERWRITE
7   OVERWRITE
8   OVERWRITE
```

```
1   OVERWRITE
2   OVERWRITE
3   OVERWRITE
4   OVERWRITE
5   OVERWRITE
6   OVERWRITE
7   OVERWRITE
8   OVERWRITE
```

```
1   Fred
2   Wilma
3   Barney
4   Betty
5   Fred
6   Wilma
7   Barney
8   Betty
```

Short Answer (5 points each)

For the following questions, assume there exist two tables in a database:

author

name	age
Brandon Sanderson	43
Ursula K. Le Guin	88
Neil Stephenson	59
N.K. Jemisin	46
Samin Nosrat	39
Margaret Atwood	79

books

title	genre	publication_date	author
Way of Kings	Fantasy	2010-08-31	Brandon Sanderson
Words of Radiance	Fantasy	2014-03-04	Brandon Sanderson
The Final Empire	Fantasy	2006-07-17	Brandon Sanderson
Elantris	Fantasy	2005-04-21	Brandon Sanderson
Snow Crash	Science Fiction	1992-06-01	Neil Stephenson
Cryptonomicon	Science Fiction	1999-01-01	Neil Stephenson
A Wizard of Earthsea	Fantasy	1968-01-01	Ursula K. Le Guin
Left Hand of Darkness	Science Fiction	1968-01-01	Ursula K. Le Guin
The Broken Earth	Fantasy	2018-10-02	N.K. Jemisin
Salt Fat Acid Heat	Food	2017-04-25	Samin Nosrat

1. Write a SQL Query to **obtain all entries** with an age greater than 50:

2. Write a SQL Query to **obtain only age** of Margaret Atwood

3. Write a SQL Query to **change the age** of Neil Stephenson to 27

4. Write a SQL Query to **enter new data** with all of below table's data into the author table. Jim Butcher (47), and Liu Cixin (56)

5. Write a SQL Query to **obtain all authors** from the author table joined to all data in the books table.

6. Write a SQL Query to **obtain all fantasy authors and their works** from the author table **AND** all corresponding data in the books table.

7. What is the output of the following code, **and** what type of data structure is `myContainer`?

```php
1  function readWords($variable, $key1, $key2) {
2    echo "The first variable is ".$variable[$key1];
3    echo "The second variable is ".$variable[$key2];
4  }
5
6
7  $myContainer["TV"] = "Teenage Mutant Ninja Turtles";
8  $myContainer["Movie"] = "Kung Fu Hustle";
9
10 readWords($myContainer, "Movie", "TV");
```

8. Fill in the function `printList` to display each of the names inside of a `<div>` with their corresponding styling?

```php
1  <?php
2
3  function printList($someList, $someColors){
4
5
6
7
8
9
10
11
12
13
14 }
15
16 $myList = ["Scary", "Baby", "Sporty", "Posh", "Ginger"];
17 $colorList = ["Crimson", "Blue", "Green", "gray", "firebrick"];
18
19 printList($myList, $colorList);
20
21 ?>
```

Coding (10 points each)

For the following questions, assume there exists a MySQL database with the following tables:

author

name	age
Brandon Sanderson	43
Ursula K. Le Guin	88
Neil Stephenson	59
N.K. Jemisin	46
Samin Nosrat	39
Margaret Atwood	79

books

title	genre	publication_date	author
Way of Kings	Fantasy	2010-08-31	Brandon Sanderson
Words of Radiance	Fantasy	2014-03-04	Brandon Sanderson
The Final Empire	Fantasy	2006-07-17	Brandon Sanderson
Elantris	Fantasy	2005-04-21	Brandon Sanderson
Snow Crash	Science Fiction	1992-06-01	Neil Stephenson
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A Wizard of Earthsea	Fantasy	1968-01-01	Ursula K. Le Guin
Left Hand of Darkness	Science Fiction	1968-01-01	Ursula K. Le Guin
The Broken Earth	Fantasy	2018-10-02	N.K. Jemisin
Salt Fat Acid Heat	Food	2017-04-25	Samin Nosrat

userpass

username	password
stephenKing	scaryThings
grrm	sellout4evr

Database Name: myDatabase

Database User: root

Database Password: password

1. Using the provided tables, write code to connect to a database and select all data from the Author table and display them in a table.

2. Using the provided tables, write code to connect to a database and check a user's password is correct. If the user's password is correct, Make the user's username persistent so that it can be accessed throughout the entire site. Assume the username and password are coming from a form with the names of each being "username" and "password":

3. Using the provided form, write code to take data from the form and upload it into the proper database table (provided)

```
1   <!DOCTYPE html>
2   <html>
3     <head>
4       <title>
5          Enter a new book!
6       </title>
7     </head>
8     <body>
9       <form action='somePage.php' method='get'>
10         Title: <input type='text' name='title'> <br />
11         Author: <input type='text' name='author'> <br />
12         Genre: <input type='text' name='genre'> <br />
13         Publication Date: <input type='date' name='publication_date'> <br />
14
15         <input type='submit'>
16       </form>
17     </body>
18 </html>
```