The motto of this test task is to find technical abilities and attitude of the coder towards solving interesting logical abilities and also their communication skills in clarifying doubts... As our company mainly deals with core php coding and direct db access and management, we would use this test task to analyze whether the coder is suitable for the company needs or not.

**Date: 05-05-2017**

**Start time: 4:45PM**

**1. There are Lakhs of records in a table, we need to show them in pagination with  first, next, prev, last buttons. please write sample code here.. Should not use ajax/any third party libraries. You should write your own code in simple step by step process.**

answer:

<?php

$db\_con = mysqli\_connect("localhost","root","password","dbname");

$page\_start=0;

$page\_limit=10;

if(isset($\_GET['pid']))

{

$id=$\_GET['pid'];

$page\_start=($id-1)\*$page\_limit;

}

Else

{

$id=1;

}

//Fetch data from table first 10 items which is its limit.

$query=mysqli\_query($db\_con, "select \* from users LIMIT $page\_start, $page\_limit");

?>

<table border="1">

<tr><td>User Name</td></tr>

<?php while($result=mysqli\_fetch\_array($query)) { ?>

<tr><td><?php echo $result['username']; ?> </td></tr>

<?php } ?>

</table>

<?php

//fetch all the data from database.

$rows=mysqli\_num\_rows(mysqli\_query($db\_con,"select \* from users"));

//calculate total page number for the given table in the database

$total=ceil($rows/$page\_limit);

if($id!=$total)

{

////Go to previous page to show next 10 records.

echo "<a href='?pid=".($id+1)."' class='button'>NEXT </a> ";

}

if($id>1)

{

//Go to previous page to show previous 10 records. If its in page 1 then it is inactive

echo "<a href='?pid=".($id-1)."' class='button'>PREVIOUS</a>";

}

?>

<ul class='page'>

<?php

//show all the page link with page number. When click on these numbers go to particular page.

for($i=1;$i<=$total;$i++)

{

if($i==$id) { echo "<li class='current'>".$i."</li>"; }

else { echo "<li><a href='?pid=".$i."'>".$i."</a></li>"; }

}

?>

</ul>

**2. Write a php program to replace words in a text with respective anchor link tags.**

Inputs:

1. $links =  array(   
   “cartrade” => “<https://www.cartrade.com>”,   
   “carwale” => “<https://www.carwale.com>”   
   );
2. $text = “We acquired CarWale because they were very good in the new car category while CarTrade is leading in the used car platform.”

Answer:

$arr = array("cartrade" => "https://www.cartrade.com", "carwale" => https://www.carwale.com");

$text = "We acquired CarWale because they were very good in the new car category while CarTrade is leading in the used car platform.";

echo str\_ireplace(array\_keys($arr), array\_values($arr), $text);

**3. Write a php program to retrieve numbers from given text input.**

Input text: “#101#,#211#,#321#,#433#,#541#”

Answer: $str = "#101#,#211#,#321#,#433#,#541#";

echo preg\_replace("(#)", "", $str);

**4. Write a php program to find respective image thumbnail height when target width is set to 100 pixel for given input resolution sizes.**

Inputs:   1024x768, 1200x1000, 1300x1250, 800x600, 800x800

Outputs:    100x75,   100x83,  100x96,  100x75,  100x100

Answer:

**5. Write a PHP program to find whether the given widths of the 4 walls of a room forms square , rectangle or polygon:**

Example 1:

Input array:  array(  5, 5, 5, 5 )

Output : Square

Example 2

Input array:  array(  10, -10, 10, -10 )

Output:  Square

Example 3:

Input array:  array( 10, 5, 10, 5 )

Output: Rectangle

Example 4:

Input array:  array( 10, 5, 10, 25 )

Output: Polygon

Answer:

$array = array(5, 5, 5, 5) ;

function shapetype($array)

{

$elements = array\_count\_values($array);

if(count($elements)==1)

{

echo "Square";

}

else if(count($elements)==2)

{

echo "Rectangle";

}

else

{

echo "Polygon";

}

}

shapetype($array);

**6. Write a PHP program to print following order according to input given:**Example 1:

Input array:  array( 50 , -25, 5 , -5 , 30, -120, 60 , 5, 10 )  
Output values:  50, 25, 30, 25, 55, -65, -5, 0, 10

Example 2:

Input array:  array( 1 , 5,  10 , 20 , -100, -20, 200 , -50, 70 )  
Output values:  1, 6, 16, 36, -64, -84, 116, 66, 136

Answer:

$array = array(50 , -25, 5 , -5 , 30, -120, 60 , 5, 10 );

for($i=0;$i<count($array);$i++)

{

if($i==0){

$order = $array[0];

}

else

{

$order = $order + $array[$i];

}

if($i!=0){

echo ', '.$order;

}

else

{

echo $order;

}

}

**Observe below database structure:**

**Table: students**

**id, name**

**Table: exams:**

**id, name**

**Table: questions:**

**id, exam\_id, question, answer1, answer2, answer3, answer4, correct\_answer**

**Table: answers:**

**id, exam\_id, question\_id, student\_id, answer**

1. **What is the sql query to find how many questions are there in each exam.**

SELECT e.name, count(\*) as quid from questions as q INNER JOIN exams as e on q.exam\_id = e.id group by q.exam\_id

**2. What is the sql query to find how many students have participated in each exam.**

select e.name, count(distinct a.student\_id) num\_students\_attented\_to\_exam from answers as a

INNER JOIN exams as e on e.id=a.exam\_id group by a.exam\_id

**3. What is the sql query to find exam names which has more than 20 questions**

select [e.name](http://exams.name/), count([e.id](http://exams.id/)) num\_questions from exams as e INNER JOIN questions as q on [e.id](http://exams.id/)=q.exam\_id group by [e.id](http://exams.id/) having num\_questions>20

**4. What is the sql query to find questions which are having answer1 as correct answer.**

select id, question from questions where answer1=correct\_answer

**5. What is the sql query to retrieve how many exams were attended by more than 20 students.?**

select e.name, count(distinct a.student\_id) as num\_stuendts from answers as a INNER JOIN exams as e on e.id=a.exam\_id group by e.id having num\_stuendts>=20

**6. What is the sql query to retrieve the student names who has answered all correct questions.**

select s.name from answers join students as s on answers.student\_id=s.id join questions on questions.id=answers.exam\_id where questions.correct\_answer=answers.answer

**7. What is the sql query to retrieve 1st question from each exam.**

SELECT question FROM questions GROUP BY exam\_id ORDER BY `id` ASC

**8. What is the sql query to find exams which are never attended by any student.**

SELECT name FROM exams WHERE id NOT IN (SELECT exam\_id FROM answers )

**9. What is the sql query to find list of exams that the specified student has already participated.**

SELECT name FROM exams WHERE id IN (SELECT exam\_id FROM answers where student\_id in(1,2) )

**10. What is the sql query to find score of each student in each exam.**

select e.name ExamName, s.name StuendtName, count(a.id) Score from answers as a

INNER JOIN students as s on s.id=a.student\_id

INNER JOIN questions as q on q.id=a.exam\_id

INNER JOIN exams as e on e.id = a.exam\_id

group by a.exam\_id, a.student\_id

**Observe below database structure:**

**Products**

**Id, name, price**

**Customers:**

**Id, name**

**Sales:**

**Id, product\_id, customer\_id, selling\_price, date**

**11.  What is the query to find product names which are sold yesterday.**

SELECT p.name, s.selling\_price, s.date FROM sales as s INNER JOIN products as p on s.customer\_id = p.id where date =current\_date() - INTERVAL 1 Day

**12.  What is the query to find customer names who purchased any products cheaper than their actual price.**

SELECT c.name, s.selling\_price from sales as s INNER JOIN customers as c on s.customer\_id=c.id where s.selling\_price>0 order by s.selling\_price asc limit 1

**13. What is the query to find total amount of sales done in last 10 days.**

SELECT SUM(selling\_price) from sales where date between current\_date() - INTERVAL 10 Day AND current\_date()

**14. What is the query to find customer name who has made highest purchases.**

SELECT c.name, SUM(s.selling\_price) as sum\_amt from sales as s INNER JOIN customers as c on s.customer\_id=c.id group by customer\_id order by sum\_amt desc limit 1

**15. What is the query to find customers who are active for more than an year.**

SELECT customer\_id FROM sales where date < NOW()-INTERVAL 1 YEAR

**16. What is the query to find customers who never made any purchases.**

SELECT name FROM customers WHERE id NOT IN (SELECT customer\_id FROM sales )

**End time:**