Database

1. I am building a University modeling system. A student has a first name, last name, university id number and telephone number. A course has a title, timing, start date and end date and unique course id. A student can take many courses. Each course can have many students. How do I model this? List the tables, primary keys, foreign keys required for this.

**Answer**

Tables

Course\_Master

-Course\_id – Primary key

-Course\_name

-Course\_duration

-Course\_fees

-Start\_date

-End\_date

Student\_master

-Std\_id Primary Key

-Name

-PhoneNo

Class\_detail

-Id

-Std\_id Foreign Key REFERENCES Student\_master std\_id

-Course\_id Foreign Key REFERENCES Course\_master course\_id

-JoinDate

2. In the above scenario write a SQL statement that gets me all the courses taken by student of name “James Bond”

**Answer**

select course.Course\_Name from Class\_detail class

join

Course\_Master course On class.Course\_id = course.Course\_id

join

Student\_master std on class.Std\_id = std.Std\_id

where std.Name = 'james bond'

3. In the above scenario get me all the courses starting after Jan 1st 2012?

a. Write it as if the starting date is stored as a Date type in mysql

b. Write it if the starting date is stored as a Datetime data type?

**Answer**

a -

Select \* from `Course\_Master` where `Start\_date` > '2012-01-01'

b -

Select \* from `Course\_Master` where `Start\_date` > '2012-01-01 23:59:59'

c. If you wanted to convert the field of type date into a unix timestamp in mysql what function would you use?

**Answer**

UNIX\_TIMESTAMP()

UNIX\_TIMESTAMP(date)

Example-

SELECT UNIX\_TIMESTAMP();

SELECT UNIX\_TIMESTAMP('2013-09-06 10:30:19');

PHP

4.

<?php

class Animal {

function makeAsound()

{

print "oooo" . "\n";

}

}

class Cat extends Animal {

function makeAsound()

{

print "meow" . "\n";

}

}

$animal = new Animal();

$animal->makeAsound();

$cat = new Cat();

$cat->makeAsound();

What will be printed out as a result of the above?

Is it overriding or overloading?

**Answer**

oooo

meow

It is a method overriding

5.

Part 1. class Animal {

function makeAsound()

{

print "oooo" . "\n";

}

}

class Cat extends Animal {

function makeAsound($volume)

{

print "MEOW" . "\n";

}

}

$animal = new Animal();

$animal->makeAsound();

$cat = new Cat();

$cat->makeAsound();

What will be printed out as a result of the above?

**Answer**

oooo

warning: missing argument 1 for Cat::makeAsound(), called on line number

MEOW

Part 2.

<?php

class car {

public function getName() {

return "Base car";

}

public function getYear() {

return "2000";

}

public function stats() {

$name = \_\_CLASS\_\_;

$ob = new $name;

print $this->getName() . ' ' . $ob->getYear();

}

}

class bmw extends car {

public function getYear() {

return "2001";

}

public function getName() {

return "BMW car";

}

}

$car = new bmw();

$car->stats();

**Answer**

BMW car 2000

6.

function doSomething ( $device ) {

$device = "note str";

return $device;

}

function dothis () {

$device = "text str";

doSomething ($device);

echo "$device";

}

dothis():

what will be printed out?

**Answer**

Parse error: syntax error, unexpected ':'

If instead ':' there was ';' after 'dothis()' then answer is

text str

7. function doSomething ( &$device ) {

$device = "note str";

return $device;

}

function dothis () {

$device = "text str";

doSomething ($device);

echo "$device";

}

dothis():

What will be printed out?

**Answer**

Parse error: syntax error, unexpected ':'

If instead ':' there was ';' after 'dothis()' then answer is

note str

8. How do I increase memory available to a php script:

a. system wide for all php scripts

b. specifically only for one php script

**Answer**

a-

In Php ini file set

memory\_limit = MemorySize

ex – memory\_limit = 100M

b- In php script, write this line after php tag.

ini\_set('memory\_limit' MemorySize);

example - ini\_set('memory\_limit', 100M);

9. How do I check if an array has a certain value?

**Answer**

1. array\_search - Searches the array for a certain value and returns the corresponding key if successful

<?php

$fruit\_arr = array('Apple', 'Orange', 'Mango');

$key = array\_search('Mango', $fruit\_arr);

?>

Answer - $key = 2 for mango;

2. in\_array — Checks if a value exists in an array

<?php

$fruit\_arr = array('Apple', 'Orange', 'Mango');

if(in\_array('Mango', $fruit\_arr)) {

echo "'Mango' was found in array";

}

?>

Answer - 'Mango' was found in array

10. How do I retrieve the first element of an associative array in php? i.e. one with key and value pairs.

**Answer**

using foreach loop

suppose array is

$new\_arr = array();

$new\_arr['name'] = 'abc';

$new\_arr['add'] = 'Near HAL Post';

foreach($new\_arr as $key => $value)

{

echo 'key-'.$key.' value-'.$value;

break;

}

using reset

reset($new\_arr); from above array

list($key, $value) = each($new\_arr);

echo "$key = $value";

11. $body = “this is some string with a jone12@mail.com in it”

I am told there is an email address in the variable $body. How do I find this email address? Do this in two ways

a. without using regular expressions and

b. with using regular expressions

**Answer**

a.

$matches = explode(' ', $body);

$email = $matches[6];

b.

$matches = array();

$pattern = '/[a-z0-9\_.\-\+]{1,256}+@[a-z0-9\-\.]+\.([a-z]{2,4})/i';

preg\_match($pattern, $body, $matches);

var\_export($matches[0]);

12.

<html>

<head>

<script type="text/javascript" src="jquery.js"></script>

<script type="text/javascript">

$(document).ready(function(){

$("button").click(function(){

//

});

});

</script>

</head>

<body>

<h2 class="test">This is a heading</h2>

<p class="test">This is a paragraph.</p>

<p>This is another paragraph.</p>

<button>Click me</button>

</body>

</html>

I want to hide the paragraph and the h2 element when the button is clicked – what is the statement I need to add?

**Answer**

$("p").hide();

$("h2").hide();

13. In Drupal 6 write a sql query to retrieve the body of a node with node id of 500?

**Answer**

$nid = 500;

db\_query("SELECT \* FROM {node} WHERE nid=%d", $nid);

or in php

<?php

$node\_id = 500;;

echo $node\_id;

$node = node\_load($node\_id);

node\_view($node);

$node\_content = $node->content['body']['#value'];

echo $node\_content;

?>

14.

What are your hobbies?

**Answer**

Listening Music, Reading on technical thing, Interacting with people

15.

How do I find how many cricket balls exist in India right now?

We are not looking for an exact answer. We want to see if you are given this problem how do you approach it. Assume you have access to internet.

**Answer** -

First find how many company manufacture the cricket ball

Then yearly average sells of the ball of each company.

Also check average life of the ball.

16.

Q- What is the UNIX command for searching for a keyword in a folder?

**Answer** - Go to the folder and hit command: grep -nr - "search string" .

Q-Unix command to list files in a folder sorted by most recent file date

**Answer** -

find -print0 | xargs --null ls -dtl : to recursively sort files with

recent date in a folder

or

ls -alt . : to non-recursively sort files with recent date in a folder

Q- If I have a big size file, what is the command to view that file?

**Answer** -

more filename

or

less filename

Q-If I want to find a Unix process with a particular name, what is the command?

**Answer** - ps -ewwo pid,args | grep bash : to find bash process