

This file consists of two section

Section One

Question 1:

At a central clearing facility for banks, a database is being set up to help inter-bank money transfers using the swift codes of different banks. The bank data is organized in two tables: **BANKS** and **SWIFTCODES**. The structure of the tables, their relationship with one another, and sample data from them are shown below.

BANKS table:

Name	Data type	Primary Key	Foreign Key
BNK_ID	INTEGER		
BNK_NAME	VARCHAR (50)		
BNK_COUNTRY	VARCHAR (50)		
BNK_SWIFTCODE	VARCHAR (11)		

BNK_ID	BNK_NAME	BNK_COUNTRY	BNK_SWIFTCODE
1	WFB BANK, INC.	United States	NULL
2	H.D.F.C. BANK	India	NULL



SWIFTCODES table:

Name	Data type	Primary Key	Foreign Key
SC_ID	INTEGER		
SC_BANKID	INTEGER		

Question 2:

You just finished the installation of a PostgreSQL server that's now up and running. One of your team members tries to access the server and encounters the error:

`psql: error: FATAL: role "gorilla" does not exist.`

As a database administrator, you must create this role gorilla with a password.

Which of the following statements should you execute to solve the problem?

SELECT ONLY ONE

☐

`create user gorilla with encrypted password 'Pa$$word' LOGIN;`

☐

`create gorilla with encrypted password 'Pa$$word';`

☐

`add gorilla with encrypted password 'Pa$$word';`

☒

`add role gorilla encrypted password = 'Pa$$word';`

Question 3:

How can you add **2 borders of 5px each** as shown below for a single *div* element?



SELECT ONLY ONE



Use `outline: 5px solid [BLUE_COLOR]` with
`border: 5px solid [ORANGE_COLOR];`



Use `outline: 5px solid [ORANGE_COLOR]` with
`border: 5px solid [BLUE_COLOR];`



Use `outline: [BLUE_COLOR] solid 5px` with
`border: 5px solid [ORANGE_COLOR];`



Use `outline: [ORANGE_COLOR] solid 5px` with
`border: 5px solid [BLUE_COLOR];`

Question 4:

What is the general CSS attribute missing in the grey bar?

```
img { _____ :brightness(200%) contrast(200%)}
```

ENTER YOUR ANSWER HERE

```
img { filter: brightness(200%) contrast(200%);}
```

Question 5:

You have padding values with key:value pair array objects as shown below.

How can you get the value of `small-padding` key in sass?

Header01	Header02	Header03
Item01	Item02	Item03
Item04	Item05	Item06
Item07	Item08	Item09
Item10	Item11	Item12

SELECT ALL THAT APPLY

☐ Using `map.keys` method

☐ Using `map.has-key` method

☐ Using `map.get-value` method

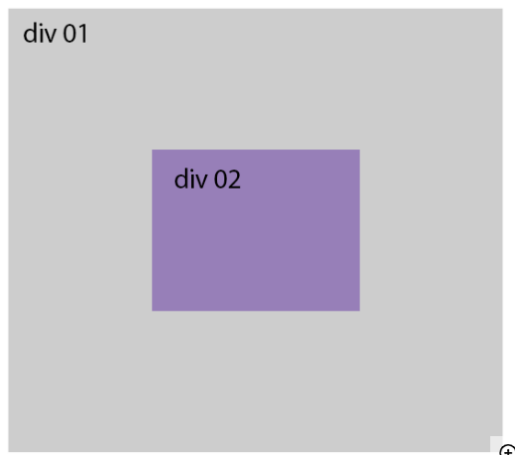
☒ Using `map.get` method

☐ Using `map.selector` method

☒ Using `map.get` method

Question 6:

You have the two div elements of the image below. How should you align "div02" to the middle of its parent element ("div01") to get the result shown in the image??



SELECT ONLY ONE

☒ • Use `display:flex` and `align-items:center` on "div01"
• Use other relevant CSS properties on "div02"

☐ • Use `display:block` and `vertical-align:middle` on "div01"
• Use other relevant CSS properties on "div02"

☐ • Use `display:block` and `position:relative` on "div01"
• relevant `transform` properties and `position:absolute` on "div02"

☐ • Use `display:table` with `vertical-align:center` on "div01"
• Use `display:table-cell` on "div02"

Question 7:

You are developing a mobile-first application using Bootstrap. The web pages should be displayed using 10 columns on all devices, with a one-column margin on the left side.

Which of the following code snippets should you use to implement this?

SELECT ONLY ONE

☐

```
<div class="row"><div class="col-1"></div>
<div class="col-10"></div></div>
```

☐

```
<div class="row"><div class="col-sm-1"></div>
<div class="col-10"></div></div>
```

☒

```
<div class="row"><div class="col-md-1"></div>
<div class="col-10"></div></div>
```

☐

```
<div class="row"><div class="col-lg-1"></div>
<div class="col-10"></div></div>
```

Question 8:

You are creating a form for data entry using Bootstrap. You want a form input that displays at the tallest height on all devices, regardless of screen size.

Which form input class should you select?

SELECT ONLY ONE

☐

```
form-control form-control-md
```

☐

```
form-control
```

☒

```
form-control form-control-lg
```

☐

```
form-control form-control-sm
```

Question 9:

You have developed a web page that requires a "submit" button for submitting a form. You want the button to appear with the default blue color.

Which button class should you select?

SELECT ONLY ONE

☐

btn btn-light

☐

btn btn-info

☐

btn btn-success

☒

btn btn-primary

Question 10:

Consider the following definition of the DemoModule.

What is the type of the forRoot() static method?

```
@NgModule({
  imports: [CommonModule]
})
export class DemoModule {
  static forRoot(): ? {
    return {
      ngModule: DemoModule,
      providers: [DemoService]
    };
  }
}
```

SELECT ONLY ONE

☐

LazyLoadedModule

☒

ModuleWithProviders

☐

ModuleForRoot

☐

Observable<NgModule>

Section Two

Web Developer Practical Exam

Overview This exam primarily assesses your skills in HTML, Javascript/jQuery, and CSS as you will have to style menus, tables, input fields and sub sections. Creating a semantic HTML should be highest priority. Matching the mockup. **Problem** Design and develop a web app that manages auto paint jobs. (no need to worry about responsiveness — so a fixed width design is desired) Below is a rundown of the use case for the web app:

1. User adds a new paint job to the queue
2. Web app will move a queued paint job to the list of active paint jobs if a slot is open (optional)
3. User marks a paint job as done and it will be removed from display

Constraints

- There are only 3 auto colors to choose from: red, green, and blue
- The web app can only handle **5 simultaneous tasks** and the rest of the paint jobs are queued until a free slot is open(optional)
- User has to manually mark a paint job as completed(optional)
- Queued paint jobs should be processed on a first-in-first-out (FIFO) basis(optional)

Instructions per page New Paint Job**New Paint Job****Car Details**

Plate No.

Current Color

Target Color

Submit

- Adding form validation is a plus, but not required.
- Upon submitting the form, the user should be redirected to the Paint Jobs page

Paint Jobs**Paint Jobs in Progress**

Plate No.	Current Color	Target Color	Action
XSA 723	Blue	Green	Mark as Completed
ABS 092	Red	Blue	Mark as Completed
JSL 110	Red	Green	Mark as Completed
XHJ 133	Green	Blue	Mark as Completed
HSU 005	Blue	Red	Mark as Completed

SHOP PERFORMANCE

Total Cars Painted:	48
Breakdown:	
Blue	24
Red	21
Green	3

Paint Queue

Plate No.	Current Color	Target Color
KKL 989	Blue	Green
HJR 279	Red	Blue
FGL 116	Red	Green

- The **Paint Jobs** and **Paint Queue** tables should refresh the list of paint jobs via AJAX call or any technique, with a polling delay of 5 seconds. (optional)
- The **Shop Performance** block needs to refresh its data via ajax calls or any technique, with a polling delay of 5 seconds. (optional)

Solution Please provide the following:

1. Schema for the database tables used.
2. Code using PHP (Laravel) or Java Springboot. Database can be MySQL
3. This is your chance to demonstrate your skills so using one or more of the following is highly encouraged.
 - Clean OOP coding style.
 - REST APIs.
 - HTML5
 - Bootstrap
 - Angular
 - Javascript and jQuery
 - CSS / SASS / LESS
 - Test-driven Development
 - Git
 - MVC

Once done, please create a GitHub public repository to upload your source codes then send. Please use “Web Developer Practical Exam” as subject. In the email, also include comments regarding any assumptions or trade-offs you made. Thank you and good luck! P.S. — If you have any questions, please email the same email address above.

Notes

The task is delivered three days after it is sent.