

Circle Instructor: Chandra Hoot

Circle Meeting time: 10am 11am 1pm

See 3

You may use one side of a single sheet (8.5 by 11 inches) of personal hand written notes. No other resources are allowed. Time is 50 minutes.

(Question 1A - 4 points) Given the following Bootstrap 5 device screen sizes:

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Extra small: <576px Small: >= 576px Medium: >= 768px Large: >= 992px Extra Large: >= 1200px
Given the following HTML:

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<div class='row'>
 <div class='col-lg-2'>Content 1</div>
 <div class='col-lg-2'>Content 2</div>
 <div class='col-md-4'>Content 3</div>
 <div class='col-md-4'>Content 4</div>
</div>

Show (using the cells below to help with spacing) where the content would go on a **medium** device and outline the boxes to indicate how many columns each div will have in the row. Note: you may not need all rows provided, but you will not need more rows. The demo lines have been done for you

1111111111111111	content = 1111111111111111
1111111111111111	content = 2111111111111111
1111111111111111	content = 3111111111111111
1111111111111111	content = 4111111111111111

(Question 1B - 3 points) Discuss how sessionStorage is used

When we store the data in the form of will retrieve that data when we visit again. This is local Session Storage.

(Question 1C - 3 points) What problem do we solve using Axios/Fetch? What are the differences between Axios and Fetch?

By using ~~Axios~~ and Fetch we can solve the code debugging process.

In Axios we can debug easily without any complications.

In Fetch By fetching it may get complicated due to fetching from snippet

Question 2 (10 points)

Task 1 (2 points): Complete the done function in the code snippet shown below such that it should change the content of the <div> element to "Hello World". Set the onClick property of the button to call the done function.

(9½)

```
<button id="end">Try it</button>
<div id="snow"></div>
<script>
    function done() {
        // Your code for the function
        document.getElementById('snow').innerHTML = 'Hello World'
    }
    // Your code to set the property
    <button id="end" onclick="done()">Try it</button>
</script>
```

Task 2 (6 points): Create a new <p> element with content "Heroku" and put it inside the <div> element with id "holder" via DOM (i.e., using JavaScript).

```
<div id="holder">
<script>
    // Your code to create and place the p element.
    var h1 = createElement("h1");
    h1.innerHTML = "Heroku";
    document.getElementById("holder").appendChild(h1);
</script>
```

Task 3 (2 points): Using JavaScript and DOM, change the h3 heading element's text color to purple and font size to 10em.

```
<h3 id="title">Dev Web Apps</h3>
<script>
    // Your code to change the colors
    document.getElementById('title').style.color = "purple";
    document.getElementById('title').style.fontSize = "10em";
</script>
```

Question 3A (6 points) Write a snippet of JavaScript (no HTML needed) that will iterate using for in/of over values and compute the sum and store it in the variable norm. Now use the map method onto values to apply an anonymous function that will return the value divided by norm. Put the result into the variable fractions. Finally put the resulting fractions in the console log.

(6)

```
let values = [1, 3, 5, 6]
```

```
// Your code here
```

```
var absolute_array = values.map((values) => {
    return fraction = Math.abs(values);
});
```

```
let norm = 0;
for(val of absolute_array) {
    norm += val;
}
```

```
console.log(fraction);
```

3

Question 3B (2 points)

What is the value printed to the console after the following JavaScript code is executed?

```
let coin_flip = 't';
function myDisplay(flip) {
    let myPromise = new Promise(function(resolve, reject) {
        if flip == 'h' then { resolve('New mail arrived.') }
        else { reject(new Error('No new mail.')) }
    });
    return myPromise
}
myDisplay(coin_flip).then((resolve)=>{console.log(resolve)})
    .catch((error)=>{console.log(error.message)})
```

0

Question 3C (2 points)

Define a variable pick with let keyword and assign an anonymous function to it that takes two parameters, namely, a and b and returns b if a is even and eight otherwise. Do NOT use arrow notation for the anonymous function.

```
// Your code let pick = (a,b) =>
    if(a%2 == 0)
        return b;
    else
        return 8;
```

3

Question 4 (10 points)

A) The basic table styling in Bootstrap can be done using which class?

- a. table
- b. tbl
- c. table container
- d. style table

(16)

B) Which of the following is NOT a feature of Java Script?

- a. Light weight
- b. Code is interpreted
- c. Variables are untyped
- d. Many primitive types

C) Mobile users are usually most comfortable scrolling content

- a. horizontally
- b. vertically
- c. using a pinch
- d. using a double tap

D) In JavaScript, which of the following is a legal way of assigning the value 10 to a variable x?

- a. {x: 10}
- b. int x = 10
- c. static x = 10
- d. var x = 10

E) Given the JavaScript definition

```
let array = [20, 10]
```

which of the following would access the value 10?

- a. array.get(10)
- b. array.get(1)
- c. array[1]
- d. array[0]

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 Circle Meeting time: 10am 11am 1pm 2pm

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(Question 1A - 4 points) Given the following Bootstrap 5 device screen sizes:

Extra small: <576px Small: >= 576px Medium: >= 768px Large: >= 992px Extra Large: >= 1200px

Given the following HTML:

```
<div class='row'>
  <div class='col-sm-3'>Content 1</div>
  <div class='col-sm-3'>Content 2</div>
  <div class='col-md-3'>Content 3</div>
  <div class='col-md-3'>Content 4</div>
</div>
```

Show (using the cells below to help with spacing) where the content would go on a **medium** device and outline the boxes to indicate how many columns each div will have in the row. Note: you may not need all rows provided, but you will not need more rows.

Content 1	content 2	content 3	content 4
2 columns for content 1	3 columns for content 2	3 columns for content 3	3 columns for content 4
3	3	3	3

(Question 1B - 3 points) What are the pros and cons of native apps running on a mobile device?

Pros

- Speed is high
- Easily Available
- Easily accessible
can be used offline. / offline access

cons

- downloading speed is slow.
- cost is high
- it is not flexible
- time consuming

(Question 1C - 3 points) Explain how integer values are stored in JavaScript.

The Values are stored in the datatype Numeric
 but not in integers

For eg:- Let a = 10 or Let a = 10.1E+00
 This is the proper way of declaring or
 initializing a value to a variable.

Var a = 10 or const a = 10.

Question 2 (10 points)

Task 1 (2 points): Complete the greeting function in the code snippet shown below such that it should change the content of the <p> element to "Hello World". Set the onClick property of the button to call the greeting function.

```
<button id="myBtn">Try it</button>
<p id="message"></p>
<script>
```

// Your code to set the property

<button id = "my Btn" onclick = "greeting()"> Try It </button>

```
function greeting() {
```

// Your code for the function

document.getElementById("message") • innerHTML =

```
}
```

```
</script>
```

Task 2 (6 points): Create a new <h1> element with content "Cat Eyes." and put it inside the <div> element with id "parent" via DOM (i.e., using JavaScript).

*<div id = "Hello" > good girl </div> Cat Eyes </div>
 <div id = "parent" > Cat Eyes </div>
 <div id = "Hello" > good girl </div>*

// Your code to create and place the h1 element.

document.getElementById("Hello").innerHTML = "Cat Eyes"

document.getElementById("parent").innerHTML = "Cat Eyes"

(or) *document.getElementById("parent").body.innerHTML = "Cat Eyes"*

Task 3 (2 points): Using JavaScript and DOM, change h3 heading element's text color to red and font size to 50px.

```
<h3 id="title">Dev Web Apps</h3>
<script>
```

// Your code to change the style

document.getElementById("title").style.color = "red"

document.getElementById("title").style.fontSize = "50px"

(or)

document.getElementById("title").style.color = "red"

document.getElementById("title").style.fontSize = "50px"

Question 3A (6 points) Write a snippet of JavaScript (no HTML needed) that will use the `map` method onto values to apply an anonymous function that will return the absolute value. Put the result into the variable `absolutes`. Next iterate using `for` in/of over the values in `absolute` and concatenate them into a string. Finally put the resulting string in the console log.

```
let values = [1, -3, 5, -6]
```

absValue
absolutes

```
// Your code here
absolutes = values.map( )
```

<Script>
function (absValue) {
 absolutes = ~~to~~absolutes ~~math.~~abs(~~absValue~~);
 for Val of absolutes ~~return~~ absolutes;
 String = absolutes.concat(absValue);
 console.log(String)

Question 3B (2 points)

What is the content inside the `<h1>` element after the following JavaScript code is executed?

```
<h1 id="demo"></h1>
<script>
    let number = 25
    async function display(num) {
        let myPromise = new Promise(function (resolve, reject) {
            if (num % 2 == 0) {resolve('200 Success')}
            else {reject(new Error('404 Page not found.'))}
        });
        await myPromise.then(
            (res) => { document.getElementById("demo").innerHTML = res }
        ).catch((err) => { document.getElementById("demo").innerHTML = err.message })
    }
    display(number)
</script>
```

Question 3C (3 points)

Define a variable `max` with `let` keyword and assign an anonymous function to it that takes two parameters, namely, `a` and `b` and returns the maximum value of the two parameters. Use arrow notation for the anonymous function.

// Your code ~~Let~~ *var max*

function (a,b) {

if (a > b) {

man = a

return man

} else {

man = b

return man

(or)
(a,b) => {
 if (a > b) {
 man = a
 return man
 } else {
 man = b
 return man
 }

Question 4 (10 points)**A) Which HTML tag is used to hold JavaScript code?**

- a. <js>
- b. <script>
- c. <code>
- d. <javascript>

(10)

B) Which of the following is NOT a Bootstrap class that can be used with a button?

- a. btn-danger
- b. btn-success
- c. btn-warning
- d. btn-java-script

C) In a Bootstrap table which of the following is not a class style that we use?

- a. grid
- b. table-zebra-striped
- c. table-bordered
- d. table

D) In JavaScript, we can access the element with id "target" using which of the following?

- a. element = dom.getElementById("target")
- b. element = document.getElementById("target")
- c. element = document.element("target")
- d. element = dom.element("target")

E) Given the JavaScript definition

```
let object = {first:10, second:20}
```

which of the following would access the value of first?

- a. object["first"]
- b. object[first]
- c. object.second
- d. object.get(x)

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(10)

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(Question 1A - 4 points) Given the following Bootstrap 5 device screen sizes:

Extra small: <576px Small: >= 576px Medium: >= 768px Large: >= 992px Extra Large: >= 1200px
Given the following HTML:

```
<div class='row'>
  <div class='col-sm-1'>It</div>
  <div class='col-sm-2'>Is</div>
  <div class='col-md-3'>Lou</div>
  <div class='col-md-4'>Rawls</div>
</div>
```

Show (using the cells below to help with spacing) where the content would go on a **medium** device and outline the boxes to indicate how many columns each div will have in the row. Note: you may not need all rows provided, but you will not need more rows.

It	IS	Lou	Rawls	

(Question 1B - 3 points) Explain the evaluation and result for both of these

```
let x = 10 + '12'
```

```
let y = 10 * '12'
```

→ The x will become 1012 as '+' is the concatenation function the number will be converted to string and it will concat

→ The y will become 120 as '*' is a multiplication operation it will convert the string to number and multiply the value in Java Script

(Question 1C - 3 points) Explain how display: flex would be used in a webapp.

The display:flex will be used in the flex-container class as it make the content which is inside that class will be flexible as it will change its content to rows and columns according the screen size.

eg:- flex-container {

display:flex,

flex-direction:row,

o

@media (min-width:700px){

flex {

flex-container {

flex-direction:column;

Question 2 (10 points)

Task 1 (2 points): Complete the time function in the code snippet shown below such that it should change the content of the <div> element to "sunset now". Set the onClick property of the button to call the lightChange function.

```
<button id="start">Mark</button>
<div id="change">Day light</div>
<script>
    function lightChange() {
        // Your code for the function
        document.getElementById('change').innerHTML = "sunset now"
    }
    // Your code to set the onclick property
    document.getElementById('start').onclick = "lightChange()"
</script>
```

Task 2 (6 points): Create a new <h3> element with content "Food." and put it inside the <div> element with id "parent" via DOM (i.e., using JavaScript).

```
<div id="parent"></div>
<script>
    // Your code to create and place the p element.
    let element = document.createElement("h3")
    element.innerHTML = "Food"
    let parent = document.getElementById("parent")
    parent.appendChild(element)
</script>
```

Task 3 (2 points): Using JavaScript and DOM, change the h3 heading element's font style to bold and background color to bold blue.

```
<h3 id="title">Dev Web Apps</h3>
<script>
    // Your code to change the style
    document.getElementById('title').style.fontStyle = "bold";
    document.getElementById('title').style.backgroundColor = "blue";
</script>
```

Question 3A (5 points) Write a snippet of JavaScript (no HTML needed) that will use the `for` of to iterate over the values in `tokens` to count the number of strings with a length of 2 or more. If the array is empty, the count should be zero. Use an alert to display the resulting count.

```
let tokens = ['h1', 'h2', 'h3', 'h']
```

```
// Your code here
let count = 0;
for (let i of tokens) {
  if (i.length >= 2) {
    if (i.length >= 2) {
      count++;
    } else {
      return 0;
    }
  }
}
alert(count);
```

Question 3B (2 points)

Write a snippet of JavaScript that will use `prompt` with the message "what is your guess in dollars" to get a string. If the guess is negative, convert to a positive value and store the result in a variable `guess`.

```
// Your code
var guess = prompt("what is your guess in dollars");
if (guess <= -1) {
  guess = Math.abs(guess);
}
```

Question 3C (3 points)

Define a variable `pick` with `let` keyword and assign an anonymous function to it that takes two parameters, namely, `a` and `b` and returns `b` if `a` is odd and zero otherwise. Do NOT use arrow notation for the anonymous function.

```
// Your code
let pick = function(a, b) {
  if (a % 2 != 0) {
    return b;
  } else {
    return 0;
  }
}
```

Question 4 (10 points)

- A) How are unordered lists styled with Bootstrap?
- a. using an id of list-group in a tag
 - b. using a class of list-group in a tag
 - c. using a class of list-group in a tag
 - d. none of the these will work

- B) In Bootstrap which element type will we use as a convenient container for other elements in a responsive design?

- a. target
- b. text
- c. button
- d. div

- C) Given the JavaScript definition

```
let array = [20, 5]
```

What is the result if we ask for the value in array at position 1

- a. We get the value undefined
- b. We get the number 20
- c. We get the number 5
- d. An exception is thrown

- D) Which HTML tag is used to hold JavaScript code?

- a. <js>
- b. <script>
- c. <code>
- d. <javascript>

- E) Given the JavaScript definition

```
let object = {c:10, d:20}
```

What is the result of

```
object.c = "us"
```

- a. The object will become {c:"us"}
- b. An exception is thrown
- c. The object is unchanged.
- d. The object will become {d:20, c:"us"}

(10)

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(Question 1A – 4 points) Given the following Bootstrap 5 device screen sizes:

Extra small: <576px Small: >= 576px Medium: >= 768px Large: >= 992px Extra Large: >= 1200px

Given the following HTML:

```
<div class='row'>
  <div class='col-md-3'>Cat</div>
  <div class='col-sm-3'>Dog</div>
  <div class='col-sm-3'>Bat</div>
  <div class='col-md-3'>Rat</div>
</div>
```

Show (using the cells below to help with spacing) where the content would go on a **medium** device and outline the boxes to indicate how many columns each div will have in the row. Note: you may not need all rows provided, but you will not need more rows.

Cat	Dog	Bat	Rat

(Question 1B – 3 points) What is external JavaScript and why would you want to use it?

Keeping the JavaScript code in a '.js' file externally and putting it in to the HTML is called external JavaScript. Their syntax in the HTML will be like

```
<script src="sourceJavaScript.js"></script>
```

The reason to use external JavaScript is because, whenever a change is needed to made in the WebApp's JavaScript, the HTML is not need to be touched. The changes can be made in '.js' file and they will automatically be pulled in to the HTML.

(Question 1C – 3 points) What is the difference between the BootStrap classes container and container-fluid?

The .container class sets a max-width at each responsive breakpoint.

The container-fluid utilizes the full width, which is width: 100% at all breakpoints.

Question 2 (10 points)

Task 1 (2 points): Complete the showRating function in the code snippet shown below such that it should change the content of the <p> element to "3 stars". Set the onClick property of the button to call the showRating function.

```
<button id="rater">food rating</button>
<p id="score"></p>
<script>

    // Your code to set the onClick property
    document.getElementById("rater").onClick = "showRating()"

    function showRating(){

        // Your code for the function
        document.getElementById("score").innerHTML = "3 stars"
    }
</script>
```

Task 2 (6 points): Create a new <h1> element with content "Cat Eyes." and put it inside the <div> element with id "show" via DOM (i.e., using JavaScript).

```
<div id="show"></div>
<script>

    // Your code to create and place the h1 element.
    var h1 = document.createElement("h1")
    h1.innerHTML = "Cat Eyes"
    document.getElementById("show").appendChild(h1)

</script>
```

Task 3 (2 points): Using JavaScript and DOM, change h3 heading element's text family to courier and font size to 10pt.

```
<h3 id="title">Dev Web Apps</h3>
<script>

    // Your code to change the style
    document.getElementById("title").style = "font-family:courier"
    document.getElementById("title").style = "font-size:10pt"

</script>
```

Question 3A (5 points) Write a snippet of JavaScript (no HTML needed) that will use the `for` of to iterate over the values in `data` to count the number of positive values minus the number of negative values. If the array is empty, the result should be zero. Put the resulting count in the console log. (The result for the example data should be -1.)

```
let data = [1, -3, 5, -6, -2]
```

<pre>// Your code here var pos = 0 var neg = 0 var res = 0 if (data.length === 0) { res = 0 } else { for (value of data) { if (value > 0) { pos++ } else if (value < 0) { neg++ } } } res = pos - neg console.log(res)</pre>	<pre>else if (value < 0) { neg++ } } res = pos - neg console.log(res)</pre>
--	--

Question 3B (2 points)

Create a snippet of JavaScript that will get the element with id "name" which will be an input element. Get the value and store it in the variable `formal`.

```
// Your code here
var formal = document.getElementById("name").value
```

Question 3C (3 points)

Create a snippet of JavaScript that will call `setTimeout`. After 5 seconds, an anonymous function should be called that will set the contents of the element with an id of `demo` to "Your time is up".

```
<div id="demo"></div>
<script>
```

<pre>// Your code here setTimeout(() => { document.getElementById("demo").innerHTML = "Your time is up" }, 5000)</pre>

```
</script>
```

Question 4 (10 points)

In Bootstrap, which of the following should be added to a list-group class to display items in a row?

- a. list-group-row
- b. list-group-items-horizontal
- c. list-group-items-row
- d. list-group-horizontal

B) Given the JavaScript definition

```
let object = {all:3, skip:5}
```

which of the following would access the value of skip?

- a. object[skip]
- b. object.all
- c. object.get(5)
- d. object["skip"]

C) The basic table styling in Bootstrap can be done using which class?

- a. style table
- b. table
- c. table container
- d. tbl

D) Which of the following is NOT a feature of Java Script?

- a. Variables are untyped
- b. Light weight
- c. Many primitive types
- d. Code is interpreted

E) Which of the following is a legal JavaScript function definition?

- a. define mul(x){ return x * 2}
- b. function mul(x) { return 2 * x}
- c. mul(x) = x * 2;
- d. <script> mul(x) x=2 * x </script>