SEMESTER 2
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CS230FZ
Web Information Processing

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Time allowed: 2 hours
Answer at least three questions
Your mark will be based on your best *three* answers
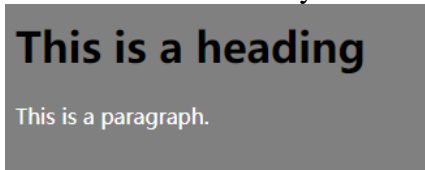**All questions** carry equal marks

Instructions

	Yes	No
Log Books allowed		√
Formula Tables allowed		√
Other allowed *(enter details)*		√

General *(Enter Details)*

QUESTION 1

(a)   Perfect the code in < style > to make the result as shown in the figure below.   (4 marks)

This is a heading

This is a paragraph.

```
<!DOCTYPE html>
<html>
<style>
body {___1._____:grey;}
p {___2._____:white;}
</style>
<body>
   <h1>This is a heading</h1>
   <p>This is a paragraph.</p>
</body>
</html>
```

(b)   Make the list below a Nested HTML list.   (8 marks)
   • Coffee
   • Tea
   • Milk
      a.   pure milk
      b.   yoghurt
      c.   sweet milk
   • Juice

```
<!DOCTYPE html>

<html>

<body>

/** write your code here**/

</body>

</html>
```

(c)   Show how to fill the numbered blanks below in order to complete the form   (8 marks)
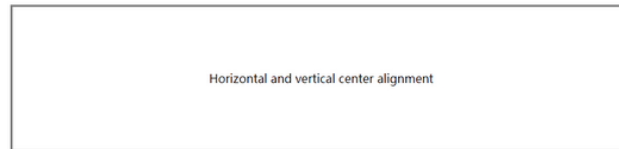   as follows:

name:

| FZU |

gender: ● Male ○ Female
hobbies: ☑running ☑swimming

| Submit |

```
<!DOCTYPE html>
<html>
<body>
<form>
   name:<br>
   <input type="___1___" name="name" value="___2___">
   <br>
   gender:
   <input type="___3___" name="gender" value="male"___4___> Male
   <input type="radio" name="gender" value="female"> Female
   <br>
   hobbies：
   <input type="___5___"checked >running
   <input type="___6___"checked >swimming
   <br>
   <input type="___7___" value="___8___">
</form>
</body>
</html>
```
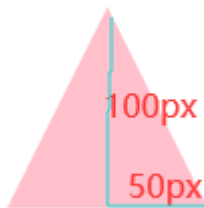
QUESTION 2

(a) Use the **padding** and **text-align** attributes to complete the CSS code below in order to make the elements horizontally and vertically aligned in the center. (Note that the vertical padding is 70px)   (4 marks)

```
Horizontal and vertical center alignment
```

```
<style>
.center {
     border: 3px solid gray;
     /** your code **/
}
</style>
<div class="center">
     <p>Horizontal and vertical center alignment</p>
</div>
```
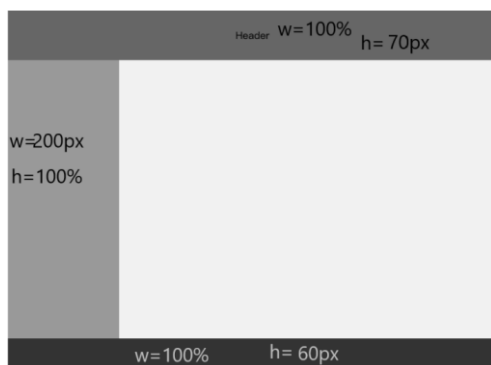
(b) Complete the CSS code below to draw a triangle as shown in the figure below. (You can use **border-*** to achieve it，the colour of the triangle is: #FFC0CB)   (8 marks)

100px
50px

```
<div class="triangle"></div>
<style>
     .triangle {
          /** Your code. **/
     }
<style>
```

(c) Complete the CSS code below to implement a web page layout as shown in the figure below, Unspecified sizes are all 100%.
(Please set a different background colour for each part, header: #666666;sidenav:#999999;content:#F1F1F1;footer:#333333)   (8 marks)

Header w=100% h= 70px
w=200px
h=100%
w=100% h= 60px

```
<body>
<div class="header">
   <h1>Header</h1>
</div>
<div class="container">
   <div class="sidenav"></div>
   <div class="content"></div>
</div>
<div class="footer"></div>
</body>
<style>
     /** Your code **/
</style>
```

QUESTION 3

(a) Describe advantages of the External JavaScript. What is the DOM?   (5 marks)
Describe the 3 different parts of The W3C DOM standard.

(b) What will the following code output to the console?   (5 marks)
```
var myObject = {
foo: "bar",
func: function() {
   var self = this;
   console.log("outer func: this.foo = " + this.foo);
   console.log("outer func: self.foo = " + self.foo);
   (function() { console.log("inner func: this.foo = " + this.foo);
                console.log("inner func: self.foo = " + self.foo);}());
   }
};
```

(c) Add to the following code snippet to move button1 to the back of button2   (10marks)
when the mouse clicks button1.
```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
</head>
<body>
<div>
    <input       type="button"       id       ="button1"       value="1"
onclick="moveBtn(this);">
    <input type="button" id ="button2" value="2" />
</div>
</body>
</html>
<script type="text/javascript">
    // write your code here ...
</script>
```

QUESTION 4

(a) Add appropriate code to the following code snippet to make the program   (10 marks)
run as shown

(i) Please sort the array in descending order and display the result.

Result:

Orange,Mango,Banana,Apple

```
<script>
// Create and display an array:
var fruits = ["Banana", "Orange", "Apple", "Mango"];
document.getElementById("demo").innerHTML = fruits;

function myFunction() {
    [_____1_____] ;   // write your code here
    [_____2_____] ;   // write your code here
    document.getElementById("demo").innerHTML = fruits;
}
</script>
```

(ii) Create a loop from 1 to 6 to generate HTML title:

Title 1

Title 2

Title 3

Title 4

Title 5

Title 6

```
<script>
function myFunction() {
    var x ="", i;
    [_____1_____] ;     // write your code here
    document.getElementById("demo").innerHTML = x;
}
</script>
```

(b)   Extend the JavaScript code given below to achieve the following effects: (10 marks)

(i) When the "Repeat Password" box loses focus, the two passwords are determined to be consistent. If they are inconsistent, the prompt "Two passwords are inconsistent" will be displayed below the input box. If they are consistent, the "Two passwords are inconsistent" prompt disappears.
(ii) Age judgment, when the age input box loses focus, the age must be a number between 0 and 100. If it does not meet the requirements, the "invalid input" prompt will be displayed below the input box.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Test</title>
</head>
<body>
   <label for="pwd">Password:</label><br>
   <input id="pwd" type="text" required>
   <br>
   <label for="pwd2">PasswordAgain:</label><br>
   <input id="pwd2" type="text" onblur="checkpwd()">
   <p id="pwdmsg"></p>
   <label for="age">Age:</label><br>
   <input id="age" type="text" onblur="checkage()">
   <p id="agemsg"></p>
</body>
</html>
<script type="text/javascript">
   // write your code here ...
</script>
```

QUESTION 5

(a)   Describe the whole process of MVC. Explain the purpose of using MVC.   (8 marks)
       Describe in detail the core components of MVC.

(b) Fill in the numbered blanks below with AJAX code.　　Use　　　the　　(12 marks)
XMLHttpRequest object to implement data interaction with the server
without refreshing the page.

Notes: We use the get request URL to send us data in an asynchronous
way.

URL: ajax_info.txt

AJAX

AJAX is not a programming language.

AJAX is a technique for accessing web servers from a web page.

AJAX stands for Asynchronous JavaScript And XML.

Change Content

```
<script>
function loadDoc() {
    var xhttp = new XMLHttpRequest();
    xhttp.onreadystatechange = function() {
        if (this.readyState == 4 && this.status == 200) {
            document.getElementById("demo").innerHTML =
this.responseText;
        }
    };
    xhttp.open("    1    ", "    2    ",    3    ); // write your code here
    xhttp.send();
}

</script>
```