**Solutions:**

1.

window.onload = function() {

document.getElementById("add").onclick = add;

}

function add() {

var el = document.createElement("div");

el.innerHTML = document.getElementById("input").value;

el.onmouseenter = color;

el.onmouseleave = uncolor;

el.onclick = del;

document.getElementById("game").appendChild(el);

}

function color() {

this.style.backgroundColor = "cyan";

this.style.fontSize =

parseInt(window.getComputedStyle(this).fontSize) + 5 + "px";

}

function uncolor() {

this.style.backgroundColor = "white";

this.style.fontSize =

parseInt(window.getComputedStyle(this).fontSize) - 5 + "px";

}

function del() {

this.parentNode.removeChild(this);

}

2.

<?php

$start = $\_GET["start"];

$end = $\_GET["end"];

$file = file("classes.txt");

$classCount = 0;

$classes = array();

for($i = 0; $i < count($file); $i++) {

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$split = split(" ", $file[$i], 6);

if($split[1] == $start && $split[2] == $end) {

$classCount++;

if($split[3] < $split[4]) {

$class = array("code" => $split[0],

"spaces" => ($split[4]-$split[3]), "name" => $split[5]);

$classes[] = $class;

}

}

}

$all = array("count" => $classCount, "classes" =>$classes);

header("Content-type: application/json");

print(json\_encode($all));

?>

3.

window.onload = function() {

document.getElementById("search").onclick = search;

}

function search() {

document.getElementById("count").innerHTML = "";

document.getElementById("results").innerHTML = "";

var start = document.getElementById("start").value;

var end = document.getElementById("end").value;

var request = new XMLHttpRequest();

request.onload = processData;

request.open("GET", "classes.php?start=" + start +

"&end=" + end, true);

request.send();

}

function processData() {

var data = JSON.parse(this.responseText);

for(var i = 0; i < data.classes.length; i++) {

var item = document.createElement("li");

item.innerHTML = data.classes[i].name + " - " +

data.classes[i].spaces + " spaces"

document.getElementById("results").appendChild(item);

}

document.getElementById("count").innerHTML = data.count +

" total classes offered";

}

4.

a) /^#[A-Fa-f0-9]{6}$/

b) /^5[1-5][0-9]{14}$/

c) /^([1-9]|10|11|12):[0-5][0-9] (A|P)M$/

5.

SELECT DISTINCT r1.role

FROM roles r1

JOIN movies m1 ON m1.id = r1.movie\_id

JOIN roles r2 ON r1.role = r2.role

JOIN movies m2 ON m2.id = r2.movie\_id

WHERE r1.movie\_id <> r2.movie\_id

AND m1.name LIKE 'Pirates of the Caribbean%'

AND m2.name LIKE 'Pirates of the Caribbean%'

ORDER BY r1.role;