**CAT-CERT 2022 Web Study #3**

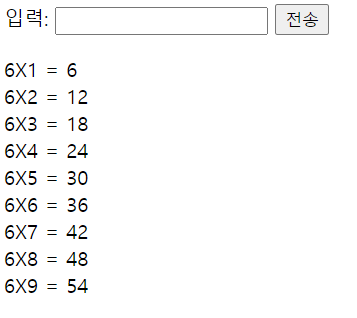
**202221162 김민재**

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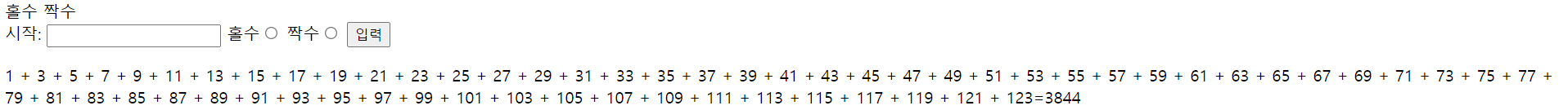
**#1**

|  |
| --- |
| **<html>**  **<head>**  **<title> cert html 3 실습#1 22김민재 </title>**  **</head>**  **<body>**  **<form method="post" action="">**  **입력: <input type="text" name="num"/>**  **<input type="submit" value="전송"/>**  **</form>**  **</body>**  **</html>**  **<?php**  **for($i = 1; $i <= 9; $i++) {**  **echo $\_POST['num']."X".$i." = ".$\_POST['num']\*$i."<br>";**  **}**  **?>** |

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**#2**

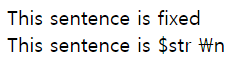
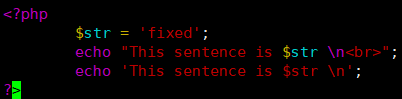
|  |
| --- |
| **<html>**  **<head>**  **<title> cert html 3 실습#2 22김민재 </title>**  **</head>**  **<body>홀수 짝수**  **<form method="post" action="">**  **시작: <input type="text" name="num"/>**  **홀수<input type="radio" name="choose" value="odd"/>**  **짝수<input type="radio" name="choose" value="even"/>**  **<input type="submit" value="입력"/>**  **</form>**  **</body>**  **</html>**  **<?php**  **$tmp = 1;**  **$sum = 0;**  **if ($\_POST['choose'] == even) {**  **$tmp = 2;**  **}**  **for ($i = $tmp; $i <= $\_POST['num']; $i += 2) {**  **echo $i;**  **$sum += $i;**  **if ($i < $\_POST['num'] - 1) {**  **echo " + ";**  **}**  **}**  **echo "=".$sum;**  **?>** |

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1. **조사 과제**

**#1 PHP ‘ & “ 차이**

php에서, ‘’은 내부의 문자열을 그대로 사용하는 반면에 “”은 내부에 $변수나 이스케이프 시퀀스 등이 있을 경우 이를 처리해준 후 사용한다. 따라서 ‘’의 실행속도가 조금 더 빠르다.



**#2 Cookie & Session**

**쿠키 (Cookie)**

- 클라이언트(브라우저) 로컬에 저장되는 데이터 파일.

- 사용자 인증이 유효한 시간을 명시할 수 있으며, 유효 시간이 정해지면 브라우저가 종료되어도 인증이 유지된다.

- 클라이언트의 상태 정보를 로컬에 저장했다가 참조한다.

- 클라이언트에 300개까지 쿠키저장 가능, 하나의 도메인당 20개의 값만 가질 수 있음, 하나의 쿠키 값은 4KB까지 저장.

- 쿠키는 사용자가 따로 요청하지 않아도 브라우저가 Request시에 Request Header를 넣어서 자동으로 서버에 전송한다.

**세션 (Session)**

- 세션은 쿠키를 기반하고 있지만, 사용자 정보 파일을 브라우저에 저장하는 쿠키와 달리 세션은 서버 측에서 관리한다.

- 서버에서는 클라이언트를 구분하기 위해 세션 ID를 부여하며 웹 브라우저가 서버에 접속해서 브라우저를 종료할 때까지 인증상태를 유지한다.

- 사용자에 대한 정보를 서버에 두기 때문에 쿠키보다 보안에 좋지만, 사용자가 많아질수록 서버 메모리를 많이 차지하게 됨. 즉 동접자 수가 많은 웹 사이트인 경우 서버에 과부하를 주게 되므로 성능 저하의 요인이 된다.

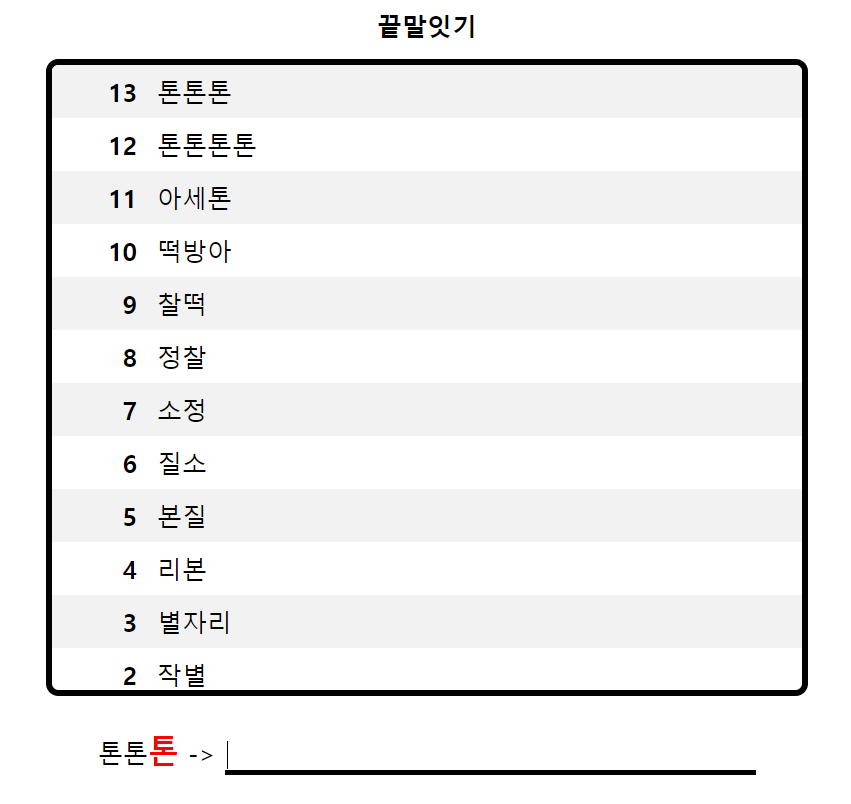
- 클라이언트가 Request를 보내면, 해당 서버의 엔진이 클라이언트에게 유일한 ID를 부여하는 데 이것이 세션 ID이다.

1. **실습 과제**

**#1 끝말잇기**

**main.php**

|  |
| --- |
| **<?php**  **session\_start();**  **$f = 0;**  **if(!isset($\_SESSION['start'])) { //최초 접속 초기 설정**  **$\_SESSION['start'] = 1;**  **$\_SESSION['words'] = array('시작');**  **$\_SESSION['score'] = 0;**  **}**  **else { //POST 글자를 받아 실행**  **$s = $\_SESSION['score'];//마지막 단어의 끝글자와 입력한 단어의 첫글자가 같다면, 또는 한글만 입력되었다면 통과**  **if (mb\_substr($\_SESSION['words'][$s], -1, 1, 'UTF-8') == mb\_substr($\_POST['word'], 0, 1, 'UTF-8') && preg\_match('/^[가-힣]{6,60}$/', $\_POST['word'], $m)) {**  **$\_SESSION['words'][] = $\_POST['word'];**  **$\_SESSION['score']++;**  **$f = 1;**  **}**  **}**  **?>**  **<html>**  **<head>**  **<meta method="utf-8">**  **<title>끝말잇기</title>**  **<link rel="stylesheet" href="./main.css">**  **<head>**  **<body>**  **<form id="reset" method="post" action="./reset.php" onkeydown="return event.key != 'Enter';">**  **<input id="resetbutton" type="submit" value="Restart">**  **</form>**  **<center><br>**  **<h1>끝말잇기</h1>**  **<div id="div">**  **<table><?php //행을 생성하고 $\_SESSION['words']의 단어들을 마지막 인덱스부터 자례대로 집어넣는다**  **for ($i = $\_SESSION['score']; $i >= 0; $i--) {**  **echo "<tr><td>".($i + 1)."</td><td>".$\_SESSION['words'][$i]."</td></tr>";**  **}**  **?></table>**  **</div>**  **<br><br>**  **<div><?php echo mb\_substr($\_SESSION['words'][$\_SESSION['score']], 0, -1, 'UTF-8')."<span>".mb\_substr($\_SESSION['words'][$\_SESSION['score']], -1, 1, 'UTF-8')."</span>"; //마지막으로 입력한 단어 출력?> ->**  **<form id="input" method="post" action=""> <?php//단어를 잘못 입력했다면 단어를 그대로 반환한다?>**  **<input type="text" id="word" name="word" maxlength="20" autocomplete="off" autofocus <?php if (!$f) {echo 'value="'.$\_POST['word'].'"';}?>>**  **</form><br><br>**  **</div>**  **</center></body>**  **</html>** |

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**#2 숫자야구**

**main.php**

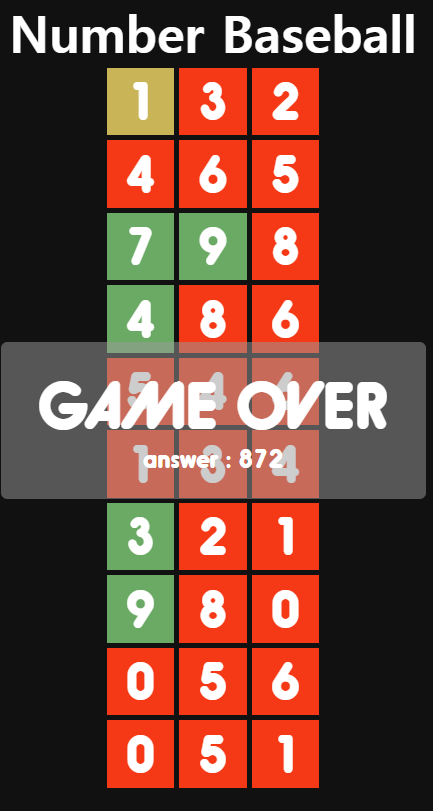
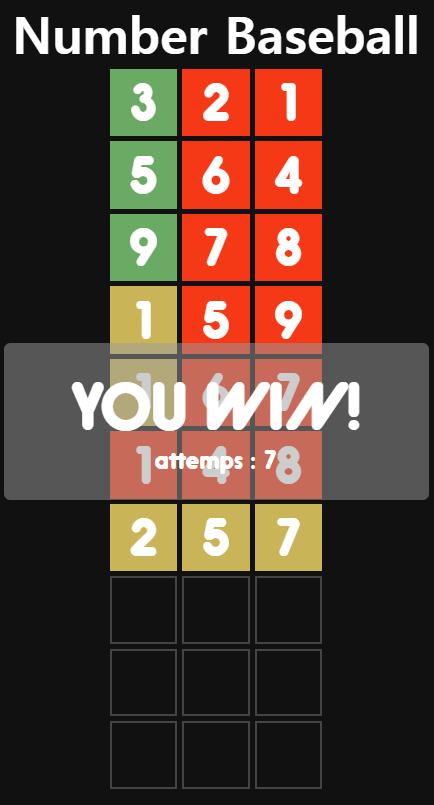
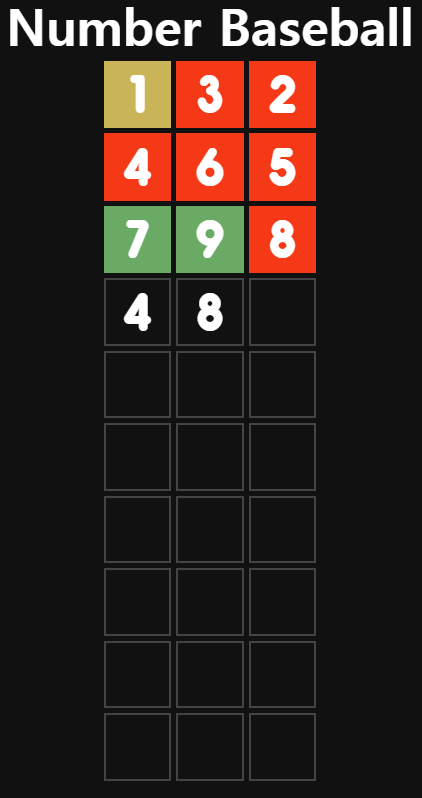
|  |
| --- |
| <?php  session\_start();  if (!isset($\_SESSION['start'])) { //default setting  $\_SESSION['start'] = 0;  $\_SESSION['nd'] = array(); //number data  $\_SESSION['ad'] = array(); //Strike Ball Out (SBO) data  $\_SESSION['count'] = 0;  $arr = array(0,1,2,3,4,5,6,7,8,9);  shuffle($arr);  $\_SESSION['answer'] = array($arr[0], $arr[1], $arr[2]); //answer  }  else {  $c = ++$\_SESSION['count'];  $s = 0; $b = 0;  $p = array($\_POST['1'], $\_POST['2'], $\_POST['3']);  for ($i = 0; $i < 3; $i++) {  $\_SESSION['nd'][] = $p[$i]; //append POSTs to nd  for ($j = 0; $j < 3; $j++) { //calculate SBO  if ($\_SESSION['answer'][$i] == $p[$j]) {  if ($i == $j) $s++;  else $b++;  }  }  }  for ($i = 0; $i < $s; $i++) //append SBO to ad  $\_SESSION['ad'][] = 's';  for ($i = 0; $i < $b; $i++)  $\_SESSION['ad'][] = 'b';  for ($i = 0; $i < 3 - $s - $b; $i++)  $\_SESSION['ad'][] = 'o';  }  ?>  <html>  <head>  <meta method="utf-8">  <title>Number Baseball</title>  <link rel="stylesheet" href="./main.css">  </head>  <body>  <form method='post' action='reset.php'>  <input type='submit' id='resetButton' value='Reset'>  </form>  <center>  <div id='alert'><?php  echo ($s == 3) ? 'YOU WIN!' : 'GAME OVER';  ?><span><br><?php  echo ($s == 3) ? 'attemps : '.$c : (($c == 10) ? 'answer : '.$\_SESSION['answer'][0].$\_SESSION['answer'][1].$\_SESSION['answer'][2] : '');  ?></span></div>  <div id='title'>Number Baseball</div>  <div id='nums'><?php $np = 0; $ap = 0;  for ($i = 0; $i < $c - 1; $i++) { //already done divs  for ($j = 0; $j < 3; $j++)  echo '<div class=\''.$\_SESSION['ad'][$ap++].'\'>'.$\_SESSION['nd'][$np++].'</div>';  echo '<br>';  }  if ($c > 0) { //current input div  echo '<span id=\'ans\'>';  for ($i = 0; $i < 3; $i++)  echo '<div>'.$\_SESSION['nd'][$np++].'</div>';  echo '<br></span>';  }  if ($s < 3 && $c < 10) echo '<span id=\'input\'><div></div><div></div><div></div><br></span>'; //to recieve div  else if ($c < 10) echo '<div></div><div></div><div></div><br>';  for ($i = 0; $i < 9 - $c; $i++) //blank divs  echo '<div></div><div></div><div></div><br>';  ?></div>  </center></body>  <?php //recieve post only if game is not over  if ($s < 3 && $c < 10) { ?>  <form method='post' action='' id='sub'><input type='hidden' name='1'><input type='hidden' name='2'><input type='hidden' name='3'></form>  <?php }  ?>  </html>  <script>  function dec(div, tmp, c) { //flip, decreasing  div.style = 'transform: scale(1, ' + tmp + ')';  if (tmp > 0) setTimeout(dec, 5, div, tmp - 0.05, c);  else {  div.className = c;  setTimeout(inc, 5, div, tmp + 0.05);  }  }  function inc(div, tmp) { //flip, increasing  div.style = 'transform: scale(1, ' + tmp + ')';  if (tmp < 1) setTimeout(inc, 5, div, tmp + 0.05);  }  <?php if ($c > 0) { ?> //set className current input  var ans = document.getElementById('ans');  <?php  for ($i = 0; $i < 3; $i++)  echo 'setTimeout(dec, 0, ans.childNodes['.$i.'], 1.0, \''.$\_SESSION['ad'][$ap++].'\');';  }  ?>  <?php if ($s < 3 && $c < 10) { ?>  var ptr = 0;  var list = [1, 1, 1, 1, 1, 1, 1, 1, 1, 1]; //not typed number list  window.addEventListener("keydown", e => { //detect keyboard input  if (isFinite(e.key)) { //if number, write number  if (ptr < 3 && list[e.key]) document.getElementById('input').childNodes[ptr++].innerHTML = e.key;  list[e.key] = 0;  }  else if (e.key == 'Backspace' && ptr > 0) { //if backspace, remove current input  list[parseInt(document.getElementById('input').childNodes[--ptr].innerHTML)] = 1;  document.getElementById('input').childNodes[ptr].innerHTML = '';  }  else if (e.key == 'Enter' && ptr == 3) { //if enter, send POST  for (var i = 0; i < 3; i++)  document.getElementById('sub').childNodes[i].value = document.getElementById('input').childNodes[i].innerHTML;  document.getElementById('sub').submit();  }  if (ptr == 0) list = [1, 1, 1, 1, 1, 1, 1, 1, 1, 1]; //reset list if input is empty  });  <?php } else { ?>  function end(tmp) {  document.getElementById('alert').style.color = 'rgba(255, 255, 255, ' + tmp + ')';  document.getElementById('alert').childNodes[1].style.color = 'rgba(255, 255, 255, ' + tmp + ')';  document.getElementById('alert').style.backgroundColor = 'rgba(155, 155, 155, ' + (tmp / 2) + ')';  document.getElementById('alert').style.top = (-420 - tmp \* 50) + 'px';  if (tmp < 1) setTimeout(end, 10, tmp + 0.03);  }  setTimeout(setTimeout, 500, end, 10, 0.01);  <?php } ?>  </script> |

**main.css**

|  |
| --- |
| @font-face {  src : url("./HirukoBlackalternate-KJrZ.ttf");  font-family: "cir";  }  \* {  color: #fff;  overflow-x: hidden;  overflow-y: hidden;  z-index: 1;  }  body {  background-color: #111;  }  #resetButton {  position: absolute;  left: 20px;  bottom: 10px;  background-color: #ddd;  border: 4px solid #ddd;  color: #000;  padding: 8px 12px;  cursor: pointer;  height: 60px;  width: 90px;  font-size: 20px;  font-weight: bold;  }  #resetButton:hover {  background-color: #fff;  border: 4px solid #fff;  }  #resetButton:active {  background-color: #ddd;  border: 4px solid #000;  font-size: 17px;  }  #title {  font-size: 40px;  font-weight: bold;  }  #nums div {  font-family: "cir";  border: 2px solid #444;  height: 50px;  width: 50px;  display: inline-block;  font-size: 40px;  line-height: 50px;  margin: 2px;  }  .s {  background-color: #c9b458;  border: 2px solid #c9b458 !important;  }  .b {  background-color: #6aaa64;  border: 2px solid #6aaa64 !important;  }  .o {  background-color: #f53916;  border: 2px solid #f53916 !important;  }  #alert {  font-family: "cir";  margin: 50% 50%;  position: absolute;  top: -420px;  left: -170px;  width: 300px;  background-color: rgba(155, 155, 155, 0);  color: rgba(255, 255, 255, 0);  padding: 20px;  border-radius: 5px;  font-size: 50px;  z-index: 2;  }  #alert span {  font-size: 20px;  color: rgba(255, 255, 255, 0);  } |

**reset.php**

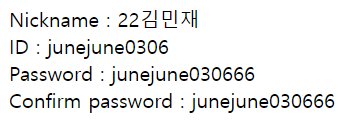
|  |
| --- |
| <?php  session\_start();  session\_destroy();  header('Location: ./main.php');  ?> |

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**#3 회원가입 폼에서 보낸 정보 출력**

**signup.php**

|  |
| --- |
| **<?php**  **echo "Nickname : ".$\_POST['nickname']."<br>ID : ".$\_POST['id']."<br>Password : ".$\_POST['password']."<br>Confirm password : ".$\_POST['cpassword'];**  **?>** |

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