

Software Development Week 5

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1 Data Structures and File Formats

1.1 Difference between Array and Record

The difference between an **Array** and a **Record** is that an array usually refers to an indexed array whereas a record usually refers to an associative array

1.2 File Formats

1.2.1 CSV File

```
Draw No, Date, Num1, Num2, Num3, Num4, Num5, SuppNum,  
45, 7 Mar 2020, 22, 33, 23, 4, 14, 7,  
45, 14 Mar 2020, 34, 35, 23, 12, 18, 31
```

1.2.2 XML File

```
<?xml version="1.0" encoding="UTF-8"?>  
<lottoDraws>  
  <Draw>  
    <DrawNo>45</DrawNo>  
    <Date>7 Mar 2020</Date>  
    <Num1>22</Num1>  
    <Num2>33</Num2>  
    <Num3>23</Num3>  
    <Num4>4</Num4>  
    <Num5>14</Num5>  
    <SuppNum>7</SuppNum>  
  </Draw>  
  <Draw>
```

```

        <DrawNo>46</DrawNo>
        <Date>14 Mar 2020</Date>
        <Num1>34</Num1>
        <Num2>35</Num2>
        <Num3>23</Num3>
        <Num4>12</Num4>
        <Num5>18</Num5>
        <SuppNum>31</SuppNum>
    </Draw>
</lottoDraws>

```

2 Iteration (Loops)

2.1 Difference between While and Do While Loop

The difference between a **While** loop and a **Do While** loop is that a **While** loop checks for the condition before executing whereas a **Do While** loop checks for the condition after executing

2.2 While / Do While Loop

```

<?php
    $i = 0
    while ($i < 10) {
        $i = $i + 1;
        echo $i;
    }
?>

```

2.3 Maximum Temperature

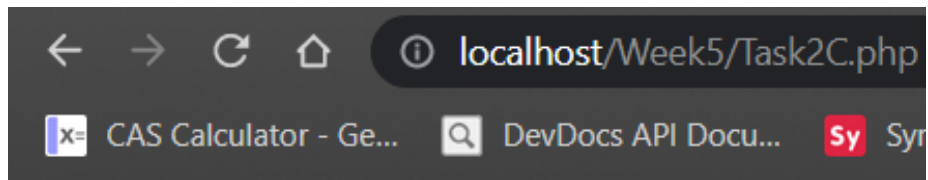
```

<?php
    $data = array(
        array("12th", "13th", "14th", "15th", "16th", "17th",
            ↪ "18th", "19th", "20th", "21st", "22nd", "23rd", "24th",
            ↪ "25th"),
        array(23.3, 20.8, 20, 24.6, 31.3, 28.8, 31.8, 32.6, 23.8,
            ↪ 20.6, 21.8, 19.2, 20.2, 24.3)
    );

    function checkTemp(string $date, float $temp) {

```

```
if ($temp < 20.0 || ($temp > 22.0 && $temp < 32.0)) {  
    return "$date: $temp <br>";  
}  
}  
  
for ($i = 0; $i < count($data[0]); $i++) {  
    echo checkTemp($data[0][$i], $data[1][$i]);  
}  
?>
```



12th: 23.3
15th: 24.6
16th: 31.3
17th: 28.8
18th: 31.8
20th: 23.8
23rd: 19.2
25th: 24.3

Figure 1: The output of the code shown above