

Nicholas LaJoie, ECE 331, HW 10

```
// Author: Nicholas LaJoie
// ECE 331 - Homework 10
// Date: April 13, 2017
```

1. PHP a) Source Code

```
<!-- Author: Andy Sheaff, revised by Nicholas LaJoie to print entire calendar for a specified
year -->
<!-- ECE 331 - HW10 - Problem 1 -->
<!-- Sources: php.net/manual/en/function.date.php and my pal Seth Raymond -->

<HTML>
<BODY>
<FORM action="calendar.php" method="post">
Year: <input type="text" name="year">
<input type="submit">
</form>

<?php
// Get year to display calendar
if (array_key_exists("year",$_POST)) {
    process($_POST["year"]);
} else {
    process(date('Y')); // Process current year if a year hasn't been set yet
}

// Process prints the appropriate calendar for a given year
function process($year)
{
    // Get current date object and attributes
    $cdate = new DateTime('now');
    $cyear = $cdate->format('Y'); // Current year
    $cmonth = $cdate->format('F'); // Current month
    $cdom = $cdate->format('j'); // Current day of the month
    $cdw = $cdate->format('w'); // Current numeric day of the week

    // Get start of the year date object
    $sdate = new DateTime();
    $sdate->setDate($year, 1, 1); // January 1st for the specified year

    // Make large table that contains month tables
    print "<TABLE Border=1 Cellpadding=5 Cellspacing=5 BGCOLOR=\"F3F6F9\">\n";
    print "<TR><TH COLSPAN=4 BGCOLOR=\"C3D4E5\">Nicholas LaJoie's Incredible Calendar</TR><TD
>\n";

    // Iterate through each month
    for ($i = 1; $i < 13; $i++) {
        // Get date info for the current month
        $yr = $sdate->format('Y'); // Year
        $mon = $sdate->format('F'); // Month
        $dom = $sdate->format('j'); // Day of the month
        $wd = $sdate->format('w'); // Weekday (0 = Sun, 1 = Mon, etc.)
        $sdate->sub(new DateInterval('P' . $wd . 'D')); // Rewind so the printed week starts o
n Sunday

        // Start table for the current month
        print "<TABLE Border=1>\n";
        print "<TR><TH COLSPAN=7 BGCOLOR=\"C3D4E5\">$mon $yr</TR>\n"; // Display month and ye
ar at top
        print "<TR><TH>Sun<TH>Mon<TH>Tue<TH>Wed<TH>Thu<TH>Fri<TH>Sat</TR>\n"; // Print Week

        // Fill up calendar
```

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```
for ($j = 0; $j < 7*6; $j++) {
    $cday = $sdate->format('j');    // Get the current day of the month
    if ($j % 7 == 0) {
        if ($cday < 8 && $j > 8) { // Bail if it starts to print an entire week from
the next month
            break;
        } else {
            print "<TR>";          // Print new row
        }
    }

    // Process the day
    if (($cday == $cdom) && ($mon == $cmonth) && ($yr == $cyear)) {
        print "<TD ALIGN=\"CENTER\" BGCOLOR=\"#B7CF8B\">$cday"; // Highlight curre
nt day
    } else if (($j < 7 && $cday > 7) || ($j > 28 && $cday < 22)) {
        print "<TD ALIGN=\"CENTER\" BGCOLOR=\"#838B91\">$cday"; // Fade non-curren
t month days
    } else {
        print "<TD ALIGN=\"CENTER\">$cday"; // Print the current day
    }

    // Complete row if appropriate
    if ($j % 7 == 6) {
        print "</TR>";
    }

    // Increment the date by one day
    $sdate->add(new DateInterval('P1D'));
}
// Complete table
print "</TABLE>\n";

// Organize calendar with four months per row
if ($i % 4 == 0) {
    print "</TD></TR><TR>\n";
}
if ($i != 12) {
    print "<TD>\n";
}

// Set date to the first of the next month
$sdate->setDate($year, $i + 1, 1);
}
// Complete entire calendar table and return
print "</TABLE>\n";
return;
}
?>
</BODY>
</HTML>
<?php
```

b) URL: <http://24.198.96.206/calendar.php>

2. Python Script - Parse

```
#!/usr/bin/python3
import csv

d = csv.reader(open('predict60.csv'), delimiter=' ');
for row in d:
    print(row[0]+' '+row[1]);
```

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```
*****  
wc output: 6  14 129  
*****
```

3. Command: `python parse.py > time_altitude.csv`

4. Python Script - Plot

```
#!/usr/bin/python3  
  
import matplotlib.pyplot as plt  
  
plt.plotfile('time_altitude.csv', delimiter = ' ', cols = (0, 1), names = ('Time, Seconds', 'A  
ltitude, Meters'))  
  
plt.title('ECE 331, HW10, Problem 4')  
  
plt.show()
```