PHP end-of-term exam

Due 2021. dec 17 by 19:00   **Pont** 30   **Beküldés...** egy fájlfeltöltés   **Fájltípusok** zip
Elérhető 2021. dec 17, 16:00 - 2021. dec 17, 19:00 körülbelül 3 óra

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Ez a feladat zárolva lett ekkor: 2021. dec 17, 19:00.

Important information

- You have **120 minutes** to complete the exam. We provide you **additional 30 minutes** for filling in the `README.md` (see template below), reading the problems, downloading the materials, compressing and uploading your solution.
- Solutions must be uploaded to ELTE Canvas. **The system closes at 18:30 (Hungarian time) and there will be no opportunity to submit your solution after the aforementioned timepoint.**
- You may use **any kind of material** (including documentation, lectures, class exercises, cheat sheets, etc) during the exam, **except human help** (synchronous, asynchronous, chat, forums, etc)!
- The problems are independent and can be solved **in any order**.
- To begin your work you should first [download the starting package we have prepared](). Each tasks has its own directory in the package. All tasks are somewhat prepared. Other than the provided files, you are free to use any other files (to store data, organize your code, implement AJAX/fetch), but make sure your solutions are in the correct folder and can be started with the `index.php` file!
- The starting package contains a template called `README.md` where you should fill in your name and Neptun code (the <> characters must be removed). **Submissions without a properly filled `README.md` file will not be graded!**
- Each directory contains a file named `TASKS.md`. Replace the space in `[ ]` with an `x` where you have (even partially) succeeded to complete the task. This will make us easier to find your solution when we grade your exam.

Task 1: White Christmas (1-white-xmas, 8 pont)

In each year we would like to have a white Christmas. To answer this question we will use the hourly weather forecast for the next week. This data can be found in an associative array named `$weather`. **Before you start implementing the tasks, you should study and understand the structure of the data in the `index.php` file!** *Technical help: you can extract column information from an array of records with the [array_column()](https://www.php.net/manual/en/function.array-column.php) function. Map and filter programming patterns can be easily carried out with the [array_map()](https://www.php.net/manual/en/function.array-map.php) and [array_filter()](https://www.php.net/manual/en/function.array-filter.php) functions.*

- a. (1 point) Generate a table with the first column containing the days from 20th to 26th December, 2021! *Note: you do not need to use date functions!*

- b. (2 points) In the next three columns, display the minimum, maximum, and average daily temperatures. For the average temperature you can assume that there are 24 items in a day. *Technical support: use* ***min()*** *(https://www.php.net/manual/en/function.min.php)*, ***max()*** *(https://www.php.net/manual/en/function.max.php)*, ***array_sum()*** *(https://www.php.net/manual/en/function.array-sum.php)* *functions.*

- c. (2 points) In the next column, calculate the most typical weather on the day indicated at the beginning of the row. To do this, take into account **the last word** in the `description` field of the hourly forecast for that day and enter the one that occurred most often. *Technical help: the number of a given value in an array can be determined using the* ***array_count_values()*** *(https://www.php.net/manual/en/function.array-count-values.php)* *function. For sorting e.g. the* ***asort()*** *(https://www.php.net/manual/en/function.asort.php)* *function can be used. The array keys can be extracted with the* ***array_keys()*** *(https://www.php.net/manual/en/function.array-keys)* *function.*

- d. (1 point) In the last column, output the number of hourly forecasts on that day when any type of snowfall is expected! All `description` values ending with *snow* count here.

- e. (1 point) Give a `white` style class for those days which are white. A day counts as white exactly if it has snowed for at least 8 hours (subtask d.) and the average temperature is negative (subtask b.).

- f. (1 point) If Christmas Day (25th December) is a white day, include the `snow.js` script on the page!

Task 2: Festive performance (2-performance, 8 pont)

During the festive season, children often perform various productions at certain events or ceremonies. Create a page that validates the data received as GET parameters for such a performance. **In the case of**

invalid fields, show error messages that clearly indicates which condition the sent value did not meet!

- a. (1 point) The parameter `num_children` (number of children performing) is mandatory, integer, and positive.
- b. (1 point) The `children_names` parameter is mandatory and contains `num_children` names separated by commas. (It is not necessary to check the number of names if the number of children was incorrect.)
- c. (1 point) The parameter `music_url` (link to the background music used for the performance) must be filled in with the correct URL format.
- d. (1 point) The `performance_type` parameter is mandatory and can only be `poem` or `song`.
- e. (1 point) The `ready` checkbox must be checked!
- f. (1 point) You have to keep the form state, so the values sent should be written back to the input fields!
- g. (1 point) In case of invalid input, the error message should be displayed next to the incorrect field in red color!
- h. (1 point) If all parameters meet the above conditions, a Christmas greeting will be displayed on the page.

PERFORMANCE

Number of children:
Children's names:
URL of music to be played:
Performance type:
☐ Everyone is ready
Submit

Task 3: Gift list (3-gift-list, 8 pont)

At Christmas, we have many loved family members whom we want to give presents. Create an application where you can keep track of your ideas for each member of your family and indicate which ideas have already been collected or which have been discarded.

You will find two data files among the prepared files. `members.json` lists family members, each with their name and ID. You can store the ideas for each family member in an internal array for the family members, **OR** you can store them in a separate file. This file is prepared as `ideas.json`. Both prepared structures are empty.

- a. (1 point) List the names of the family members on `index.php`. Each name should be a link to `member.php`, passing the ID of that family member as an URL parameter (e.g. `member.php?id=3`).
- b. (1 point) On `member.php`, display a list of gift ideas for that member. List item format:

```
<li class="new">
  idea1
  <form action="" method="post">
    <input type="hidden" name="idea-id" value="idea1-id">
```

```
    <button type="submit" name="function-ok">Got it!</button>
    <button type="submit" name="function-discard">Discard it!</button>
  </form>
</li>
```

- c. (2 points) Save the gift idea for that person by submitting the form. In addition save a status information for the idea, as well, with the `new` value. After saving, redirect the browser to the same page. **NO data validation is needed!**
- d. (1 point) In the idea list clicking on the "Got it!" button, change the status of the idea from `new` to `ok`!
- e. (1 point) In the idea list clicking on the "Discard!" button, change the status of the idea from `new` to `discarded`.
- f. (1 point) Ideas with the status `ok` should appear first in the list (`<li class="ok">idea</li>`), then the status `new` should appear, finally ideas with the `discarded` status (`<li class="discarded">idea</li>`)!
- g. (1 point) On the `index.php` page, next to each family member, display the ratio of ideas with `ok` status (`N`) and non-discarded status (`M`) in `N / M` format.

GIFT LIST

MY FAMILY MEMBERS

- My dear father (2 / 4)
- My dear mother (0 / 1)
- Loved grandpa (0 / 0)
- Heartful grandma (0 / 0)
- My cute sister (0 / 0)
- Protective brother (0 / 0)

Task 4: Webshop cart (4-cart, 8 pont)

A webshop sells Christmas presents and feelings. Each "product" can be added to a cart, changed their number, or removed. The products are listed in a PHP array at the beginning of the `index.php` file. The contents of the cart must be stored in **session**! *There are no restrictions on the files used in the links. You can solve the task only with* `index.php`*, but you can create separate files for almost each subtask, like* `add.php`*,* `remove.php`*. This design decision is up to you, but we give you some recommendation how it can be done, if you have no idea.*

- a. (1 point) Display the products according to the sample on the page under the heading "Products"!
- b. (1 point) Clicking on the "Add to cart" link, add the product to the cart, which will be stored in the session! *Recommendation: e.g.* `add.php?id=1`*, where* `id` *is the product ID.*
- c. (1 point) List the contents of the cart according to the given sample under the heading "Cart"!

- d. (1 point) If a product is added to the cart several times, it should not appear as a separate item, but should display the number of it!
- e. (1 point) Clicking on the "+" button in the cart list, increase the number of items! *Recommendation:* *e.g.* `add.php?id=1&count=1`.
- f. (1 point) Clicking on the "-" button in the cart list, decrease the number of items! *Recommendation:* *e.g.* `add.php?id=1&count=-1`.
- g. (1 point) If the number of an item falls below 1, remove it from the cart!
- h. (1 point) Clicking on the "Delete" link, delete the item from the cart! *Recommendation: e.g.* `remove.php?id=1`.

XMAS WEBSHOP

PRODUCTS

- Warm tea cup **Add to cart**
- Hot chocolate mug **Add to cart**
- Dreamy music headset **Add to cart**
- Calm tenderness **Add to cart**
- Peace inside **Add to cart**

CART

PHP évfolyam ZH (2021/22/1)

Kritérium	Értékelések		pontok
1/a	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
1/b	**2.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	2.0 pont
1/c	**2.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	2.0 pont
1/d	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
1/e	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
1/f	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
2/a	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
2/b	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
2/c	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
2/d	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
2/e	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont

Kritérium	Értékelések		pontok
2/f	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
2/g	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
2/h	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
3/a	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
3/b	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
3/c	**2.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	2.0 pont
3/d	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
3/e	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
3/f	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
3/g	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
4/a	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont

Kritérium	Értékelések		pontok
4/b	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
4/c	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
4/d	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
4/e	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
4/f	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
4/g	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont
4/h	**1.0 pont** **Teljes megoldás**	**0.0 pont** **Nem értékelhető**	1.0 pont

Összpontszám: 32.0 pontból