

# CS 328 - Homework 7

## Deadline

11:59 pm on Friday, March 27, 2026

## Purpose

To start thinking ahead about potential PL/SQL subroutines for your "second" database, and to practice more with CSS, including laying out forms using CSS.

## How to submit

Each time you wish to submit your work-so-far, submit your files using `~st10/328submit` on nrs-projects, with a homework number of **7**.

## Coming soon in *upcoming* homeworks:

This section is to give you a heads-up about some *future* homework problems related to your "second" database.

### ***So you can start considering potential uses for your "second" database:***

Note that, in *upcoming* homeworks:

- You will be required to decide on and write a **PL/SQL stored procedure** or **PL/SQL stored function** for your selected "second" database.
  - It should expect at least one parameter.
  - It needs to **NOT** depend on `dbms_output.put_line` calls (since their output cannot reach the application tier).
  - It should be potentially useful to the audience for and/or to an application programmer developing applications atop your selected "second" database.
  - (This can be as simple as a stored procedure that expects info from the user and inserts, updates, or deletes it appropriately into/from a table or tables, or a stored function that conveniently grabs a piece of information such as a count or average or some such.)
- You will be creating PHP documents that create strict-style HTML documents styled by CSS and that use your selected "second" database.
  - You will definitely be asked to create a PHP document that **queries** something useful that results in **multiple rows** and displays it tastefully within an HTML **table** element and/or uses it to dynamically build a form widget such as a **select**/drop-down box.
  - You will definitely be asked to create a PHP document that **calls** your **PL/SQL stored procedure** or **PL/SQL stored function** that you will write for your "second" database.

## Important notes for Homework 7

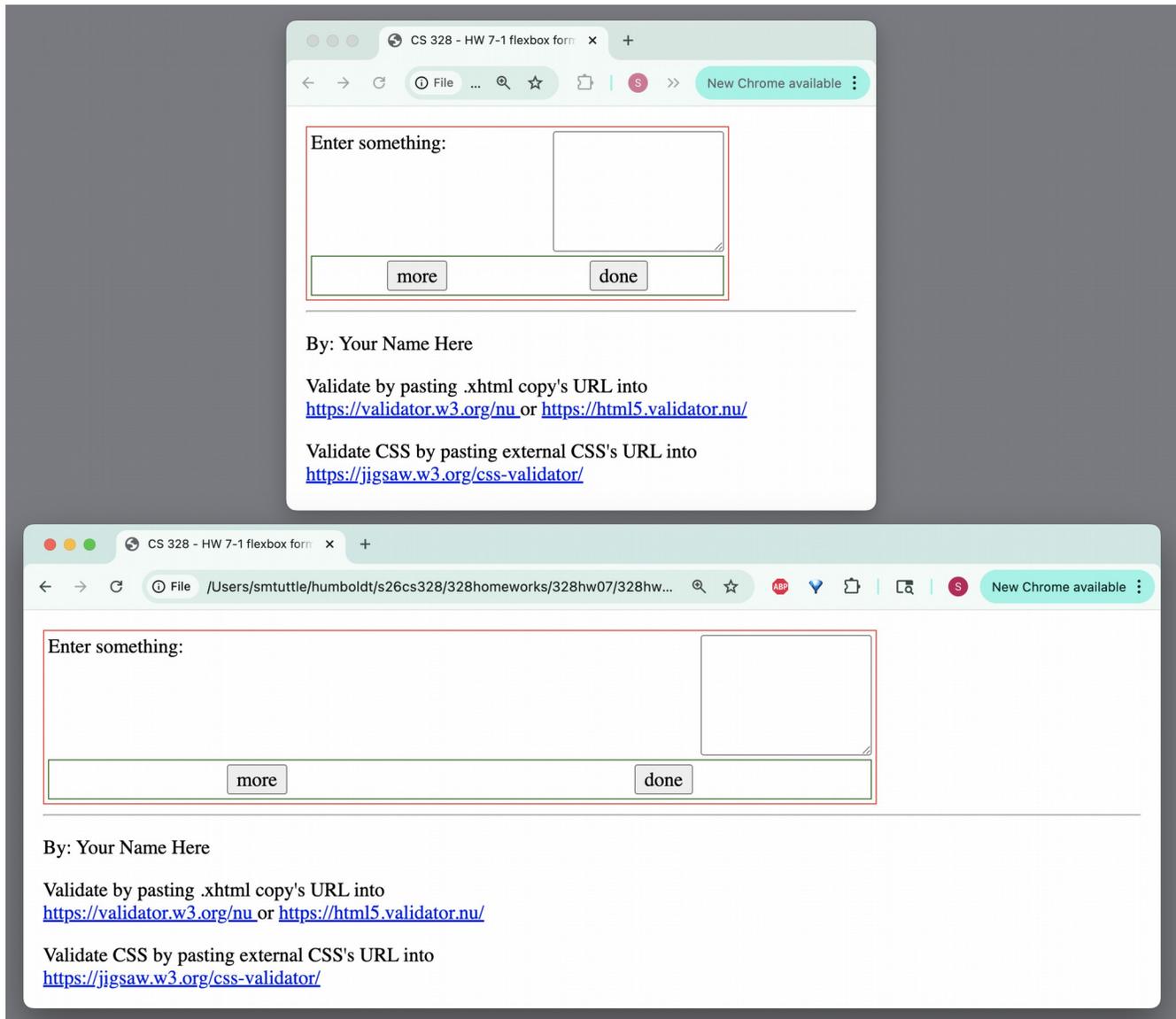
- Remember: You are required to use **normalize.css** for all of your web pages for CS 328, and to add **link** elements for additional CSS external stylesheets *after* this (but still **within** the **head** element).

EXCEPT for **normalize.css**, **DO NOT USE ANY CSS FRAMEWORKS or PREDEFINED LIBRARIES for this course** (unless you get prior, explicit permission). One of this course's purposes is to provide you with some practice with the basics of "plain" CSS, so you can better make use of frameworks and predefined libraries later.

- Remember that there are **CS 328 CSS Coding Standards so far** posted on the public course web site, under **References** -- you are also expected to follow these for all course documents.
  - External style sheets are expected to validate as valid CSS using the validator link included in the **CS 328 CSS Coding Standards so far**.
- You are expected to follow all course coding standards posted on the public course web site; course documents are also expected to validate as strict-style HTML.

**(Problem 1 starts on the next page)**

## Problem 1



**Purpose:** to practice using CSS flexbox to layout a form

**Task:** Consider the above screen shot. This is a display, in the Chrome browser on Mac OS X, of a file adapted from a provided file `328hw07-1-start.html` so that it is being styled using CSS.

- Make a `public_html` **sub-directory** for Homework 7 with a **not-too-obvious name** of your choice, and be sure to **chmod** it to permissions **711**.
  - And, your **.html** and **.css** files for this homework should all have permissions **644**.
- Copy the provided file `328hw07-1-start.html` into your Homework 7's `public_html` sub-directory:

```
cp ~st10/328hw07-1-start.html 328hw07-1.html
```

- Fill in the opening comment block as specified, putting in your **name**, the last modified **date**, and the **URL** that can be used to run your document.
  - (You *will* lose credit if this URL does not work when I or the grader paste it into a browser!)
- **Within the `head` element**, after the `link` element specifying that this document is being styled by `normalize.css`, add a second `link` element following course style standards specifying that this document will then be further styled using a file `328hw07-1.css` that you are about to create.
  - **Do not include any inline or internal CSS rules in your `328hw07-1.html`.**
- Within its **`footer` element**, add a `p` element whose content includes **your name**.
- Do not make any other changes to your `328hw07-1.html`.
- Read over this and notice what HTML elements are included in its **`body` element**.
- Display your `328hw07-1.html` at this point, and see how it looks before you start styling it.

Now create a CSS external stylesheet `328hw07-1.css` in the same directory as your `328hw07-1.html`. It should meet the following requirements:

- Start `328hw07-1.css` with an opening comment block that includes at least:
  - this file's name, `328hw07-1.css`
  - your name,
  - and the last modified date
- You may add additional rules to customize fonts and colors, but otherwise **only** add rules for the following.
- Give the **`body` element** a non-zero **margin** of your choice.
- For the **`form` element**:
  - Explicitly give it a **width** using % as its units
  - Give it a **visible border** of thickness, style, and color of your choice
  - Give it **non-zero padding** of your choice
- For an element with **`class="info"`**:
  - Use **flexbox** layout for this element
  - **Justify** its children elements such that they have space **between** them that can grow and shrink as the browser window is resized. (Note how this appears in the screenshot above.)
- For an element with **`class="next-step"`**:
  - Use **flexbox** layout for this element
  - **Justify** its children elements such that they have space **around** them that can grow and shrink as the browser window is resized. (Note how this appears in the screenshot above.)
  - Give it a **visible border** of thickness, style, and color of your choice.
  - Give it **non-zero padding** of your choice.

- Give the **textarea** element a **non-zero bottom margin** of your choice.
- You may add additional rules to customize **fonts** and **colors** if you would like, but, for **any text atop a background**, make sure that the **contrast** between their colors is **at least WCAG 2 AA Compliant** based on the tester at [https://snook.ca/technical/colour\\_contrast/colour.html](https://snook.ca/technical/colour_contrast/colour.html).
- Make sure your **328hw07-1.html** validates as strict-style HTML, and that your **328hw07-1.css** validates as valid CSS.

Submit your files **328hw07-1.html**, **328hw07-1.xhtml**, and **328hw07-1.css**.

## Problem 2

**Purpose:** to practice more with form layout and to continue work on an eventual web application using the bookstore database

**Task:** Consider your HTML document **about-bks.html** from Homework 2, Problem 3, describing your chosen theme for your instance of the bookstore database, and your HTML document **bks-isbn-choice.html** from Homework 4, Problem 4, which includes a form element for selecting an ISBN of a title.

Make **COPIES** of your files **about-bks.html** and **bks-isbn-choice.html** in your Homework 7 sub-directory on nrs-projects (so Homework 7's problems will not affect your earlier homeworks' files!).

And, consider your CSS external style sheet **bks.css** from Homework 6, Problem 4, which you created to style your HTML document **about-bks.html**.

Also make a **COPY** of your **bks.css** in your Homework 7 sub-directory on nrs-projects (so Homework 7's problems will not affect your Homework 6's files, either!).

- Update the **last-modified date** in these new Homework 7 versions of all three of these files **about-bks.html**, **bks-isbn-choice.html**, and **bks.css**.
- Update the **URL** from which I can run these new Homework 7 versions of your **about-bks.html** and **bks-isbn-choice.html** in their opening comment blocks.
  - (You *will* lose some credit if these URLs do not work when I or the grader paste them into a browser.)
- Your **about-bks.html** should already have, in its **head** element, a second **link** element so that it is further styled using **bks.css**.

In the **head** element of **bks-isbn-choice.html**, also add a second **link** element so that it, too, will be further styled using **bks.css**.

- *IF* you would like, you may add a link to the CSS validator at <https://jigsaw.w3.org/css-validator/> to these documents' **footer** element.
- You may find you need to further modify your **bks-isbn-choice.html** to style it, and possibly also your **about-bks.html** so that both can be styled by Homework 7's version of **bks.css** -- that's acceptable, but try to minimize such modifications.

Now **modify** Homework 7's version of **bks.css** to also format the **form** in **bks-isbn-choice.html**, meeting the following requirements:

- Include rules that "nicely" (tastefully, attractively, and readably) lay out and format this form.
- Explicitly give the form a **width** using *either* **em** or **%** as its units.
- Use either **CSS flexbox layout** or **CSS grid layout**, your choice, to noticeably layout the elements within this form.
- **Center** the **submit button** in your form. (Note that there are several reasonable ways to do this.)
- Ensure that, for any text atop a background, the **contrast** between their colors is **at least WCAG 2 AA Compliant** based on the tester at [https://snook.ca/technical/colour\\_contrast/colour.html](https://snook.ca/technical/colour_contrast/colour.html).
- Add additional CSS rules as desired to further attractively format elements of these documents.
- Make sure your Homework 7 versions of **about-bks.html** and **bks-isbn-choice.html** still validate as strict-style HTML, and that your resulting Homework 7 version of **bks.css** also still validates as valid CSS.

Submit your resulting Homework 7 versions of:

- **about-bks.html**, **about-bks.xhtml**,
- **bks-isbn-choice.html**, **bks-isbn-choice.xhtml**, and
- **bks.css**.

### Problem 3

**Purpose:** to practice more with form layout and to continue work on an eventual web application using your "second" database.

**Task:** Consider your HTML document **custom-choice.html** from Homework 4, Problem 5, which includes a form element for selecting something that could be used to answer a question from an expected user of your "second" database.

Make a **COPY** of your file **custom-choice.html** in your Homework 7 sub-directory on nrs-projects (so Homework 7's problems will not affect your earlier homework's files!).

- Update the **last-modified date** in the new Homework 7 version of **custom-choice.html**.
- Update the **URL** from which I can run this new Homework 7 version of **custom-choice.html** in its opening comment block.
  - (You *will* lose some credit if this URL does not work when I or the grader paste it into a browser.)
- Within its **head** element, modify this Homework 7 version of **custom-choice.html** to use **both normalize.css** and a new style sheet **custom.css** you are about to create.
- *IF* you would like, you may add a link to the CSS validator at <https://jigsaw.w3.org/css-validator/> to this document's **footer** element.
- You may find you need to to further modify your **custom-choice.html** to style it -- that's acceptable, but try to minimize such modifications.

Now create a CSS external stylesheet **custom.css** in the same directory as your Homework 7 version of **custom-choice.html**. It should meet the following requirements:

- Start **custom.css** with an opening comment block that includes at least:
  - this file's name, **custom.css**
  - your name,
  - and the last modified date
- Include rules that "nicely" (tastefully, attractively, and readably) lay out and format this document, including laying out the form within this document.
- Explicitly give the form a **width** using *either* **em** or **%** as its units.
- Use either **CSS flexbox layout** or **CSS grid layout**, your choice, to noticeably layout the elements within this form.
- **Center** the **submit button** in your form. (Note that there are several reasonable ways to do this.)
- Ensure that, for any text atop a background, the **contrast** between their colors is **at least WCAG 2 AA Compliant** based on the tester at [https://snook.ca/technical/colour\\_contrast/colour.html](https://snook.ca/technical/colour_contrast/colour.html).
- Add additional CSS rules as desired to further attractively format elements of this document.
- Make sure your Homework 7 version of **custom-choice.html** still validates as strict-style HTML, and that your **custom.css** validates as valid CSS.

Submit your resulting Homework 7 versions of **custom-choice.html**, **custom-choice.xhtml**, and **custom.css**.