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**«НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ
ТОМСКИЙ ПОЛИТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ»**

**Методические указания к выполнению лабораторных работ
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Laboratory work 1. HTML Basics

Instructions

1. We have a test.html file.
2. Change the text on line 2 (the bit between `` and ``) to anything you like!
3. Hit Save & Submit Code, and you'll see how the test.html file would look in a browser. Did you see that? The `` tags made our text bold!
4. Go ahead and put the three lines mentioned above into test.html, which is now blank.
5. In between the second and last line (between the `<html>` and the `</html>`), feel free to write whatever message you like.
6. Put in the `<!DOCTYPE HTML>` tag.
7. Put in the `<html>` opening and closing tags.
8. Between the `<html>` tags, write whatever you like.
9. Press Save & Submit Code to see what you've written appear on the page!
10. Add an opening `<head>` tag and closing `</head>` tag.
11. Between the `<head>` tags, add in an opening `<title>` tag and closing `</title>` tag.
12. Between the `<title>` tags, write in a title for your page. For example, "My Webpage."
13. Press "Save & Submit Code" to continue.
14. Underneath the closing `</head>` tag, put an opening `<body>` tag and a closing `</body>` tag, like in the example above.
15. Inside the body, create two paragraphs. Each paragraph starts with an opening `<p>` tag and ends with a closing `</p>` tag.
16. In the body section, create a heading. To do this, create an `<h1>` tag.
17. Add content.
18. Close the element with a closing tag `</h1>`. (Your content should now be between `<h1>` and `</h1>`.)
19. Underneath the heading tags, create two paragraphs using `<p>` tags with whatever content you like.
20. Your code currently has one `<h1>` heading and two paragraphs.
21. Add an `<h3>` heading before the second paragraph.
22. Add an `<h5>` heading after the second paragraph, and then add a third paragraph after this heading.

23. Add three more headings to the code, making use of `<h2>`, `<h4>` and `<h6>`. Make sure to close all your tags!

24. Under each heading, add a short paragraph. Don't forget paragraphs need opening and closing `<p></p>` tags!

25. Add a title between the `<title>` tags.

26. Create a `<h3>` sized heading in the body. Make your heading say anything you want! (Just don't forget to close it.)

27. Create three paragraphs using `<p>` tags and fill them with content (e.g. about cars, your pet, favorite city to travel—whatever you like!).

28. In the body section, create a link. To do this, create an `<a>` tag. Point your link to a website by setting the value of the href attribute.

29. Add a description of your link.

30. Close the element with a closing tag ``.

31. In the body section, create an `<a>` tag.

32. Choose a website to point your link to, like ``.

33. Now create your `` tag between your opening `<a>` tag and closing `` tag. Don't forget the `src`!

34. Finally, close your `` tag after your `` tag.

35. Between the `<body>` tags, add two images using the `` tag. One should be a link; the other should not. The link can go anywhere you want.

36. After your two images, create a link that's just a line of text. It can link anywhere you want.

Laboratory work 2. Build Your Own Webpage

Instructions

1. Your webpage is blank as the day it was born! Let's add five things:

The `<!DOCTYPE>` tag

Your `<html>` tags

Your `<head>` tags

`<title>` tags (with any title you like!) between your head tags

Your `<body>` tags

2. Create an `<h1>` tag inside your body tags. Between your opening `<h1>` and closing `</h1>` tags, type your name for all to see!

3. Insert three `<p>` tags after your `<h1>` tag (but before your closing `</body>` tag!). Write a little bit about yourself in each of the three paragraphs. You can say whatever you want! It's your webpage.

4. Insert an `` tag between your `<body>` tags. Feel free to put it anywhere! (We think it'd look best after your `<h1>` tag, but before your `<p>` tags.) You can make the `src` attribute point to any image you like.

5. Add at least two links to your webpage. You can turn an image or a bit of text into a link; you can even turn part of the text inside your `<p>` tags into a link!

Laboratory work 3. HTML Basics II

Instructions

1. Let's get warmed up by adding a `<title>` in the `<head>`.
2. In the body, create a paragraph (using `<p>`). Write anything you like!
3. On line 14, create an `<h2>` sized heading called 'List of things I find just OK'.
4. Starting on line 15, create an ordered list using the `` tag.
5. Your ordered list should have three items, each wrapped (i.e. surrounded) by `` tags.
6. In the body tag, create an `<h3>` tag with the text 'Most annoying TV celebrities'.
7. Make an ordered list with the `` tag of the top 3 TV celebrities you find not to your taste. Remember, these go between the list item tag ``.
8. Remember to close your ordered list with the `` tag.
9. Under the list you made, make an `<h2>` tag with the text "Top three things I can do for Mother's Day."
10. Then make another ordered list of those things too!
11. In your `<body>` tag, create an `<h1>` tag and put the text 'Some random thoughts' inside it.
12. Under your `<h1>` tag, create a paragraph using the `<p>` tag which describes the list you will make.
13. Finally, create an unordered list with the `` tag which contains a list of four random thoughts, each of which should be placed inside of an `` tag.
14. On line 21, create an unordered list.

15. Your unordered list should have two items: "Favorite Boys' Names" and "Favorite Girls' Names."

16. Under each item of the unordered list, create an ordered list. Use the ordered list to specify your three favorite boys' names and three favorite girls' names. Use the sample nested lists above as examples of how to do this.

17. Comments start with `<!--` and end with `-->` like this:

`<!-- This is an example of a comment! -->`

18. Make the text on line 1 into a comment. Leave the text on line 3 alone!

19. On line 7, make the text size 10px.

20. On line 8, make the text size 20px.

21. On line 9, make the text size 40px.

22. Change the heading color to green and its size to 16px.

23. Change the color of the first paragraph to violet.

24. Change the color of the second paragraph to red and its font size to 10px.

25. Change the font size of the first listed item (``) to 16px and the font to Arial.

26. Change the font size of the second listed item to 12px and the font to Verdana.

27. Change the font size of the third listed item to 10px and the font to Impact.

Make sure to capitalize the first letter of Arial, Verdana, and Impact as shown!

28. For the paragraph on line 7, make the font have:

a. A size of 20px

b. A color of blue

c. A font-family of Arial

29. Change the background color of the `<body>` tag to brown. To do so, add the style attribute to the opening `<body>` tag, similar to the example above.

30. Change the background color of the `` tag to yellow.

31. Make the `<h3>` heading aligned center.

32. Make the first item in the list align left.

33. Make the second item align center.

34. Make the third item align right.

35. Bold the word 'sing' on line 7.

36. Bold the word 'too' on line 8.

37. On line 7, italicize the word 'that'.

38. On line 8, italicize the word 'so'.

Make sure you don't include the "!" between the `` tags on line 7!

Laboratory work 4. Social Networking Profile

Instructions

1. Put your name between the `<title></title>` tags.
2. Put a picture of yourself (or anything you like!) between the `<body></body>` tags.
3. Create a paragraph below your picture that mentions your age, gender, and hometown. Don't get too carried away—we'll get to your interests, favorite things, and where you've lived, worked, or gone to school in the next section!
4. Pick any topics you like! You should include at least four.
5. Go nuts with your lists within lists! The only requirement is that you have at least one ordered list(``) and one unordered list (``).
6. Spice up your profile with different fonts, sizes, and colors. You can do any combination you like, so long as you use font-family, font-size, and color at least once each!
7. How many you use is up to you, but you should use `` and `` at least once each! Once you do, hit Save & Submit Code to finish the exercise and bask in the glory of your newly created profile.

Laboratory work 5. HTML Basics III

Instructions

1. Make the heading have the font family Arial.
2. Add an image!
3. Add a second image which is clickable and links to a site.
4. Add an opening and closing set of `<table>` tags to the body of this HTML document.
5. Go to the Result view. You'll notice that nothing visible was added. That's because our table's not populated yet! We'll learn how to do that soon.
6. We'll get to the details of table cells in a minute. In the meantime, we've added a set of `<tr></tr>` tags to the table on line 9, creating a table row.
7. Add two more rows to the table on line 11 and line 12.

8. In the second row, add a table data (`<td></td>`) cell and type Two between the tags.

9. In the third row, add another cell with Three between the tags.

10. Go to the Result view. You can see that we have 1 column with 3 rows, and each row contains exactly one cell.

11. Add a `<td>` tag to the second `<tr>` tag with the value 1897, like this: `<td>1897</td>`

12. Add a `<td>` tag to the third `<tr>` tag with the value of 1935

13. Check out the preview window. We now have a total of 2 columns and 3 rows, and each row has 2 cells.

14. Sweet! We now have a basic table. Go on to the next section to find out how to add a header and a title to our table.

15. Since everything we currently have is just tabular data, put everything we have in our table so far between a set of `<tbody></tbody>` tags. We'll add the table head next!

16. Inside the table heading element, add a single row using a `<tr></tr>` element.

17. Within this row, add two `<th></th>` cells with the values Famous Monster and Birth Year.

18. Go to the Result view. We've added the title row for you, but it only spans 1 column right now.

19. Make the column span 2 columns with the `colspan` attribute. Adding the attribute `colspan="2"` to a `<th>` tag should do the trick.

20. Return to the Result view again. Our title spans 2 columns now!

21. Make the "Famous Monster" and "Birth Year" labels emphasized (i.e. make them italicized).

22. Make the "Famous Monsters by Birth Year" title red.

23. Change the background color of the `<body>` tag to brown. To do so, add the `style` attribute to the opening `<body>` tag, similar to the example above.

24. Change the background color of the `` tag to yellow.

25. Make the `<h3>` heading aligned center.

26. Make the first item in the list align left.

27. Make the second item align center.

28. Make the third item align right.

29. Bold the word 'sing' on line 7.

30. Bold the word 'too' on line 8.

31. On line 7, italicize the word 'that'.

32. On line 8, italicize the word 'so'.

Make sure you don't include the `!"` between the `` tags

on line 7!

Laboratory work 6. Clickable Photo Page

Instructions

1. Create a `<table>` (complete with `body`) with three table rows. Check the Hint if you need a refresher!

2. Add three table cells per row to get a total of nine cells.

3. Create a table header using `<thead></thead>` and `<th></th>` tags. Feel free to call your table whatever you'd like!

4. Insert an `` between each set of `<td></td>` tags. Make sure to set each `src` attribute to the image URL you want the picture to be of!

5. Wrap each `` tag in `<a>` tags, like in the example above.

There's no need to make your `` `src` attributes and `<a>` `href` attributes point to the same web address—in fact, we encourage you to make them different!

Laboratory work 7. CSS: An Overview

Instructions

1. Remove the comment from around the `<link>` tag on line 4, then view the result in the preview pane to see what you'll soon be able to do with CSS!

2. Click on `stylesheet.css`. We've put in the CSS to make the paragraph's text red, but you need to add the CSS that will make the text between `` tags blue.

3. Go to the `stylesheet.css` and tell the `span` selector that you want the font-family to be cursive.

4. Insert a `<link>` to `stylesheet.css` in `index.html`.

5. In the `stylesheet.css` tab, make the font color of the `p` selector green.

6. Underneath your `color: green` property-value pair (but before the final `!}`), set the font-family to Garamond and the font-size to 24px.

7. Make all the `h3` headings red.

8. Set all the paragraphs to the Courier font-family. (Make sure to capitalize "Courier" as shown!)

9. The second paragraph contains text between `` tags. Set the background-color of that `` to 'yellow'.

10. The CSS in `stylesheet.css` is broken; some of the curly braces (`{}`) are out of whack and semicolons are missing. Your mission (should you choose to accept it): fix this CSS!

11. See the CSS we've added for the `p` selector in `stylesheet.css`? Comment it out! (That is, put `/*` before the `p` in that tab and `*/` after the closing `}`).

12. Add a `<link>` to `stylesheet.css` between your `<head></head>` tags.

13. Change the `<h1>` header's font-family to Verdana. (Make sure Verdana is capitalized as shown!)

14. Change the `<h3>` header's font-family to Courier. (Make sure Courier is capitalized as shown!)

15. Make the paragraph text color purple.

16. Add a `/*` CSS comment `*/` to the CSS tab! It can say anything you like. (Remember: HTML comments and CSS comments are written differently.)

17. Make the `<h3>` color `#cc6666` and the `<h2>` color `#8a2be2`.

18. Set the font-family of the `<h1>` header to serif, the `<h2>` to sans-serif, and the `<h3>` to cursive.

19. In the `stylesheet.css`, add Times as an option before serif, Verdana as an option before sans-serif, and Vivaldi as an option before cursive.

20. In the `stylesheet.css`:

a. Set the background-color to `#cc0000`, like this: `background-color: #cc0000;`

b. Set the height to `100px`, like this: `height: 100px;`

c. Set the width to `100px`, as well.

d. Set your `tds` (table data cells) to have a height of `50px` so we can see them better when we add our border.

e. Give your `tds` a border of `1px dashed blue`.

f. Give your table a border of `1px solid black`.

21. In the `stylesheet.css`, give your a selector a color of `#cc0000` and a text-decoration of `none`.

22. Okay, all on your lonesome: add a `<link>` tag between the `<head></head>` tags in the HTML tab to the right. The link should have an `href` attribute that points to `stylesheet.css`.

23. Add a pair of `<h1></h1>` tags inside the body of our HTML page. Your `h1` header can say anything you want! Then, on the CSS tab, make its font-family to Verdana and its color to `#576D94`.

24. Add a pair of `<p></p>` tags below your h1 header. Put any text you like in there, then head over to the CSS and set the font-size to 18px and its color to #4A4943.

25. Set the p font-family to Garamond.

26. Give h1 a backup font of sans-serif and p a backup font of serif.

27. 01. Add an `` to your HTML document. Its src attribute can point anywhere! (Check the Hint if you're stuck or need a picture.)

28. On the CSS tab, set your image's height to 100px and width to 300px.

29. On the CSS tab, give your image a border of 1px solid #4682b4.

30. Add a link to your HTML page using `Link text` tags (check the Hint if you need a reminder). You can link to any webpage.

31. On the CSS tab, change your link's text-decoration to none and its color to #cc0000.

Laboratory work 8. Design a Button for Your Website

Instructions

1. On the CSS tab, add a div selector and add property: value pairs of:

a. height: 50px

b. width: 120px

c. border-color: #6495ED

d. background-color: #BCD2EE.

Your border-style can be any type (dashed, solid, and so on) and you can use any border-width you want. (We like 2px.)

2. Set your div's border-radius to 5px.

3. On the CSS tab, set your div's margin to auto and its text-align property to center.

4. On the HTML add a link (using `<a>` tags) between your `<div></div>` tags. You can set its href attribute to go to any website, and you can make the link text itself say whatever you want!

5. On the CSS set your link's text-decoration to none. Give it whatever color or font-family you like!

Laboratory work 9. CSS Selectors

Instructions

- 1.