Sure! Here’s a comprehensive set of short and long questions, along with practical tasks related to CSS3, designed for a university-level exam that may be conducted on computers.

Short Questions

1. **What is the purpose of CSS3?**

- **Answer: CSS3 is used to style and layout web pages, allowing for enhanced visual presentation and design.**

2. **List three new features introduced in CSS3.**

- **Answer:**

- Rounded corners (`border-radius`)

- Multiple backgrounds

- CSS transitions and animations

3. **What does the `box-shadow` property do?**

- **Answer: The `box-shadow` property adds shadow effects around an element's box, allowing for depth and visual interest.**

4. **Explain the difference between `contain` and `cover` in the `background-size` property.**

- **Answer: `contain` scales the background image to fit within the element while maintaining its aspect ratio, ensuring the entire image is visible. `cover` scales the image to cover the entire element, which may result in some parts of the image being cropped.**

5. **What is the function of the `@font-face` rule in CSS3?**

- **Answer: The `@font-face` rule allows web designers to use custom fonts that are not installed on the user's device by linking to font files hosted on a server.**

6. **Define the `transition` property in CSS3.**

- **Answer: The `transition` property allows for smooth changes between property values over a specified duration, enhancing user experience.**

7. **What is a linear gradient in CSS3?**

- **Answer: A linear gradient is a gradual transition between two or more colors along a straight line, defined using the `linear-gradient` function.**

8. **How do you create a radial gradient in CSS3?**

- **Answer: A radial gradient is created using the `radial-gradient` function, which defines a gradient that radiates from a central point.**

9. **What is the purpose of the `opacity` property?**

- **Answer: The `opacity` property sets the transparency level of an element, with values ranging from 0 (fully transparent) to 1 (fully opaque).**

10. **Explain the `column-count` property in CSS3.**

- **Answer: The `column-count` property specifies the number of columns an element's content should be divided into, facilitating multi-column layouts.**

Long Questions

1. **Discuss the significance of CSS3 modules and how they enhance web design.**

- **Answer: CSS3 modules allow for a more organized and modular approach to styling web pages. Each module focuses on specific features, such as selectors, backgrounds, and animations, making it easier for developers to implement and maintain styles. This modularity also ensures backward compatibility, allowing older styles to work alongside new features.**

2. **Describe how to implement rounded corners using the `border-radius` property. Provide examples for different corner configurations.

- **Answer:** The `border-radius` property can be used to create rounded corners on elements. For example:

  - `border-radius: 15px;` applies a uniform radius to all corners.

  - `border-radius: 15px 50px 30px 5px;` applies different radii to each corner (top-left, top-right, bottom-right, bottom-left).

  - This property enhances the visual appeal of buttons, boxes, and other UI elements.

3. **Explain the use of CSS3 animations. How do you define keyframes, and what properties can be animated?

- **Answer:** CSS3 animations allow elements to change styles over time without JavaScript. Keyframes are defined using the `@keyframes` rule, specifying the styles at various points in the animation. For example:

  ```css
  @keyframes example {
    from {background-color: red;}
    to {background-color: blue;}
  }
  ```

  Properties that can be animated include color, size, position, and opacity, among others.

4. **What are the advantages of using CSS3 gradients over traditional images? Discuss both linear and radial gradients.

- **Answer:** CSS3 gradients reduce file size and loading times since they do not require image files. They also scale better and can be easily adjusted with CSS properties. Linear gradients transition colors along a straight line, while radial gradients radiate from a center point, allowing for versatile design options.

5. **Discuss the role of the `text-shadow` and `box-shadow` properties in enhancing web design. Provide examples of their usage.

- **Answer:** The `text-shadow` property adds depth to text by creating a shadow effect, enhancing readability and aesthetics. For example:

  ```css
  h1 {
    text-shadow: 2px 2px 5px rgba(0, 0, 0, 0.5);
  }
  ```

  The `box-shadow` property applies shadows to elements, creating a sense of elevation. For example:

  ```css
  div {
    box-shadow: 10px 10px 5px grey;
  }
  ```

Practical Tasks

1. **Task: Create a CSS3 Style Sheet**

   - Create a CSS3 stylesheet that styles a simple webpage. Include:
     - A header with a gradient background.
     - A section with rounded corners and a shadow effect.
     - A footer with multiple columns of text.
   - **Deliverable:** A `.css` file and a simple HTML file linking to it.

2. **Task: Implement CSS3 Animations**

   - Create a simple webpage with a button that, when hovered over, changes color and scales up using CSS3 transitions and animations.
   - **Deliverable:** A `.css` file and an HTML file demonstrating the hover effect.

3. **Task: Use @font-face to Include Custom Fonts**

- Use the `@font-face` rule to include a custom font in a webpage. Style headings and paragraphs with this font.

- **Deliverable: A `.css` file and an HTML file showcasing the custom font.**

4. **Task: Create a Multi-Column Layout**

- Design a multi-column layout using the `column-count` and `column-gap` properties. Populate the columns with sample text.

- **Deliverable: A `.css` file and an HTML file demonstrating the multi-column layout.**

5. **Task: Create a Responsive Design with CSS3**

- Develop a responsive webpage that adjusts its layout based on the screen size using CSS3 media queries. Include flexible images and a grid layout.

- **Deliverable: A `.css` file and an HTML file that showcases the responsive design.**

These questions and tasks are designed to assess both theoretical knowledge and practical skills

iShort Questions

1. **What is CSS3 and how does it differ from CSS2?**
- CSS3 is the latest standard for CSS, divided into several modules that extend the features of CSS2 while maintaining backward compatibility.
2. **Name three important modules of CSS3.**
- Selectors, Box Model, and Animations.
3. **Explain the purpose of the `border-radius` property in CSS3.**
- The **`border-radius`** property allows you to create rounded corners for elements.
4. **How can you specify different border-radius values for each corner?**
- By using four values in the **`border-radius`** property, where each value corresponds to a specific corner (top-left, top-right, bottom-right, bottom-left).
5. **What is the `border-image` property used for in CSS3?**

- The **`border-image`** property allows you to use an image as a border around an element instead of a solid color.

6. **Describe the `background-size` property in CSS3.**

- The **`background-size`** property specifies the size of background images, allowing values like lengths, percentages, or keywords such as **`contain`** and **`cover`**.

7. **What are RGBA colors in CSS3?**

- RGBA colors are an extension of RGB colors that include an alpha channel to specify opacity, defined as **`rgba(red, green, blue, alpha)`**.

8. **What is the difference between `linear-gradient` and `radial-gradient` in CSS3?**

- **`linear-gradient`** creates a gradient along a straight line, while **`radial-gradient`** creates a gradient that radiates from a central point.

9. **Explain the purpose of the `text-shadow` property in CSS3.**

- The **`text-shadow`** property applies shadow effects to text, allowing customization of shadow color, position, and blur.

10. **What is the `@font-face` rule in CSS3?**

- The **`@font-face`** rule allows web designers to use custom fonts that are not installed on the user's computer by linking to font files hosted on the web server.

Long Multiple-Choice Questions (MCQs)

1. **Which of the following statements about CSS3 modules is true?**

- A) CSS3 is a single document that cannot be divided.
- B) CSS3 modules add new capabilities while preserving backward compatibility.
- C) CSS3 does not support any new features compared to CSS2.
- D) CSS3 modules are only for styling text.
  Answer: B) CSS3 modules add new capabilities while preserving backward compatibility.

2. **What does the `border-radius` property do when applied to an element?**

- A) It creates a solid border around the element.
- B) It allows the corners of the element to be rounded.
- C) It changes the background color of the element.
- D) It adds padding to the element.
  Answer: B) It allows the corners of the element to be rounded.

3. **Which of the following is NOT a valid value for the `background-size` property?**

- A) contain

- B) cover
- C) stretch
- D) auto
  Answer: C) stretch

4. **What is the purpose of the `column-count` property in CSS3?**

- A) To specify the number of columns an element should be divided into.
- B) To set the width of each column.
- C) To define the gap between columns.
- D) To apply a border to each column.
  Answer: A) To specify the number of columns an element should be divided into.

5. **Which of the following properties is used to create a shadow effect on an element?**

- A) text-shadow
- B) box-shadow
- C) Both A and B
- D) shadow-effect
  Answer: C) Both A and B

6. **What does the `animation-duration` property specify in CSS3 animations?**

- A) The number of times an animation should run.
- B) The delay before the animation starts.
- C) The total time an animation takes to complete.
- D) The speed curve of the animation.
  Answer: C) The total time an animation takes to complete.

7. **Which of the following is a valid syntax for defining a linear gradient in CSS3?**

- A) `background: linear-gradient(red, blue);`
- B) `background: gradient(linear, red, blue);`
- C) `background: linear-gradient(0deg, red, blue);`
- D) Both A and C
  Answer: D) Both A and C

8. **What is the effect of the `opacity` property in CSS3?**

- A) It changes the color of an element.
- B) It sets the transparency level of an element.
- C) It adds a shadow to an element.

- D) It modifies the font size of an element.
  Answer: B) It sets the transparency level of an element.

9. **Which of the following properties can be used to control the spacing between columns in a multi-column layout?**

- A) column-gap
- B) column-width
- C) column-rule
- D) column-span
  Answer: A) column-gap

10. **What does the `transform` property do in CSS3?**

- A) It changes the color of an element.
- B) It applies a 2D or 3D transformation to an element.
- C) It sets the opacity of an element.
- D) It defines the size of an element.
  Answer: B) It applies a 2D or 3D transformation to an element.

These questions cover a wide range of topics within CSS3, ensuring a comprehensive review for exam preparation.

n CSS3, making them suitable for a university-level exam conducted on computers.