Certainly! Below are challenging questions along with code assignments and answers for each of the CSS3 concepts you mentioned:

### 1. All CSS3 Selectors with Examples

\*\*Question:\*\*

Explain different CSS3 selectors with examples.

\*\*Assignment:\*\*

Write CSS code using various CSS3 selectors to style specific elements.

\*\*Answer:\*\*

```css

/\* Example of CSS3 Selectors \*/

/\* Element Selector \*/

p {

color: blue;

}

/\* ID Selector \*/

#myElement {

font-size: 20px;

}

/\* Class Selector \*/

.myClass {

background-color: yellow;

}

/\* Descendant Selector \*/

ul li {

font-weight: bold;

}

/\* Child Selector \*/

ul > li {

padding: 10px;

}

/\* Attribute Selector \*/

input[type="text"] {

border: 1px solid #ccc;

}

/\* Pseudo-class Selector \*/

a:hover {

color: red;

}

/\* Pseudo-element Selector \*/

p::first-line {

text-transform: uppercase;

}

```

### 2. Create Box Model Concept

\*\*Question:\*\*

Explain the CSS Box Model and demonstrate its components with code.

\*\*Assignment:\*\*

Create a box using the CSS Box Model and style it with different properties.

\*\*Answer:\*\*

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>CSS Box Model</title>

<style>

/\* Style for the box \*/

.box {

width: 200px;

height: 200px;

padding: 20px;

border: 2px solid #333;

margin: 20px;

background-color: lightgray;

box-sizing: border-box; /\* Include padding and border in the width \*/

}

</style>

</head>

<body>

<div class="box">

This is a box using CSS Box Model.

</div>

</body>

</html>

```

### 3. Create Responsive Dropdown Menu

\*\*Question:\*\*

Design a responsive dropdown menu using CSS.

\*\*Assignment:\*\*

Implement a responsive navigation bar with a dropdown menu.

\*\*Answer:\*\*

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Responsive Dropdown Menu</title>

<style>

/\* Style for navigation bar \*/

.navbar {

overflow: hidden;

background-color: #333;

}

/\* Links inside the navbar \*/

.navbar a {

float: left;

display: block;

color: white;

text-align: center;

padding: 14px 20px;

text-decoration: none;

}

/\* Dropdown menu \*/

.dropdown {

float: left;

overflow: hidden;

}

.dropdown .dropbtn {

font-size: 16px;

border: none;

outline: none;

color: white;

padding: 14px 20px;

background-color: inherit;

font-family: inherit;

margin: 0;

}

.dropdown-content {

display: none;

position: absolute;

background-color: #333;

min-width: 160px;

z-index: 1;

}

.dropdown-content a {

float: none;

color: white;

padding: 12px 16px;

text-decoration: none;

display: block;

text-align: left;

}

.dropdown:hover .dropdown-content {

display: block;

}

</style>

</head>

<body>

<div class="navbar">

<a href="#home">Home</a>

<div class="dropdown">

<button class="dropbtn">Dropdown</button>

<div class="dropdown-content">

<a href="#link1">Link 1</a>

<a href="#link2">Link 2</a>

<a href="#link3">Link 3</a>

</div>

</div>

<a href="#about">About</a>

</div>

</body>

</html>

```

### 4. Create Animations for Box

\*\*Question:\*\*

Implement CSS animations for a box.

\*\*Assignment:\*\*

Create a CSS animation that makes a box move across the screen.

\*\*Answer:\*\*

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>CSS Animation for Box</title>

<style>

/\* Style for animated box \*/

.box {

width: 100px;

height: 100px;

background-color: red;

position: relative;

animation: moveBox 2s linear infinite;

}

@keyframes moveBox {

0% {

left: 0;

}

100% {

left: calc(100vw - 100px);

}

}

</style>

</head>

<body>

<div class="box"></div>

</body>

</html>

```

### 5. Create Animations for Images

\*\*Question:\*\*

Apply CSS animations to an image.

\*\*Assignment:\*\*

Animate an image to rotate continuously using CSS.

\*\*Answer:\*\*

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>CSS Animation for Image</title>

<style>

/\* Style for rotating image \*/

img {

width: 200px;

height: 200px;

animation: rotateImage 2s linear infinite;

}

@keyframes rotateImage {

0% {

transform: rotate(0deg);

}

100% {

transform: rotate(360deg);

}

}

</style>

</head>

<body>

<img src="image.jpg" alt="Rotating Image">

</body>

</html>

```

### 6. Create Responsive Web Page using Media Queries

\*\*Question:\*\*

Build a responsive web page using media queries.

\*\*Assignment:\*\*

Create a webpage that adjusts its layout for different screen sizes using media queries.

\*\*Answer:\*\*

```html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Responsive Web Page</title>

<style>

/\* Base styles \*/

body {

font-family: Arial, sans-serif;

margin: 0;

padding: 0;

box-sizing: border-box;

}

.container {

max-width: 1200px;

margin: 0 auto;

padding: 20px;

}

/\* Media queries for responsiveness \*/

@media (max-width: 768px) {

.container {

padding: 10px;

}

}

@media (

max-width: 480px) {

.container {

padding: 5px;

}

}

</style>

</head>

<body>

<div class="container">

<h1>Welcome to Our Website</h1>

<p>This is a responsive web page.</p>

</div>

</body>

</html>

```

These examples cover a range of CSS3 concepts and can be used for practicing and understanding these topics effectively. Feel free to modify and extend these examples for further learning.