1. z-index is a CSS property that specifies the stack order of an element. Elements with a higher z-index value will appear on top of elements with a lower z-index value. Example: z-index: 1;

div {

position: absolute;

z-index: 1;

}

1. **The different types of selectors in CSS are:**

* Element selector: selects elements based on their tag name, e.g. p {}
* Class selector: selects elements with a specific class attribute, e.g. .example {}
* ID selector: selects a single element with a specific ID attribute, e.g. #example {}
* Universal selector: selects all elements, e.g. \* {}
* Attribute selector: selects elements based on their attribute values, e.g. [type="text"] {}
* Pseudo-class selector: selects elements based on their state, e.g. :hover {}
* Pseudo-element selector: selects parts of an

element, e.g. ::before {}

/\* element selector \*/

p {

color: red;

}

/\* class selector \*/

.example {

background-color: yellow;

}

/\* ID selector \*/

#example {

font-weight: bold;

}

/\* universal selector \*/

\* {

box-sizing: border-box;

}

/\* attribute selector \*/

input[type="text"] {

border: 1px solid black;

}

/\* pseudo-class selector \*/

a:hover {

color: blue;

}

/\* pseudo-element selector \*/

p::before {

content: ">>";

}

1. VH (viewport height) and VW (viewport width) are CSS units that represent a percentage of the height and width of the viewport. Example: height: 50vh;

div {

height: 50vh;

width: 80vw;}

1. Inline elements are displayed inline with the text, without creating a new line. Inline-block elements are similar to inline elements, but can have a width and height set. Block elements are displayed as a block, taking up the full width of the parent element and creating a new line. Example:

/\* inline element \*/

span {

display: inline;

}

/\* block element \*/

div {

display: block;

}

/\* inline-block element \*/

img {

display: inline-block;

width: 50%;

height: auto;

}

1. Pseudo-classes are keywords that can be added to selectors to select elements based on their state, such as :hover or :active. Example: a:hover {color: red;}

a:hover {

  color: red;

}

1. Units can be specified in CSS using keywords (such as em or rem), percentages (such as 50%), or absolute units (such as px or cm). Example: font-size: 16px;

p {

font-size: 1.2em;

width: 50%;

margin: 10%;

}

1. The border-box includes the element's content, padding, and border, while the content-box includes only the content. Example: box-sizing: border-box;

div {

box-sizing: border-box;

width: 50%;

padding: 20px;

border: 1px solid black;

}

1. Opacity can be specified in CSS3 using the opacity property, which takes a value between 0 (completely transparent) and 1 (completely opaque). Example: opacity: 0.5;

div {

background-color: blue;

opacity: 0.5;

}

1. To center align a div inside another div, you can set the parent div to display: flex and use the justify-content and align-items properties. Example:

.parent {

display: flex;

justify-content: center;

align-items: center;

}

Example2:

.parent {

display: flex;

justify-content: center;

align-items: center;

}

.child {

width: 50%;

}

1. Absolute positioning is relative to the nearest positioned ancestor, while relative positioning is relative to the element's normal position. Example:

.parent {

position: relative;

}

.child {

position: absolute;

top: 0;

left: 0;

}

.parent {

position: relative;

height: 200px;

width: 200px;

border: 1px solid black;

}

.child {

position: absolute;

top: 50%;

left: 50%;

transform: translate(-50%, -50%);

height: 50px;

width: 50px;

background-color: blue;

}