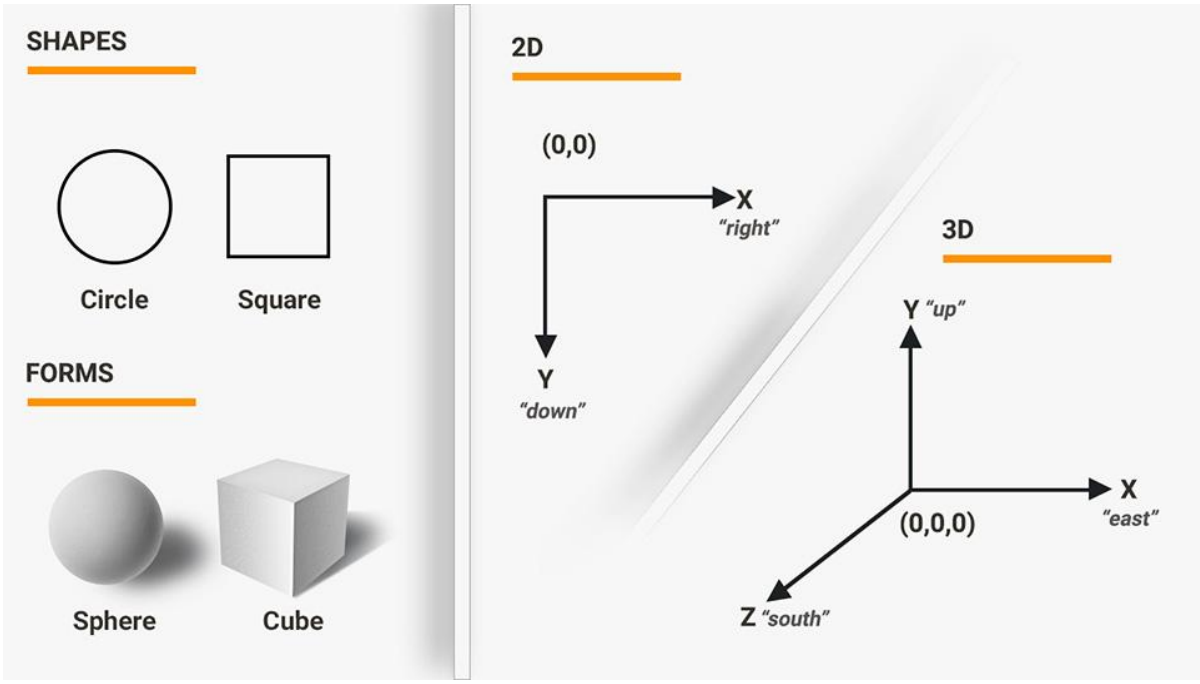
50. 3D transforms

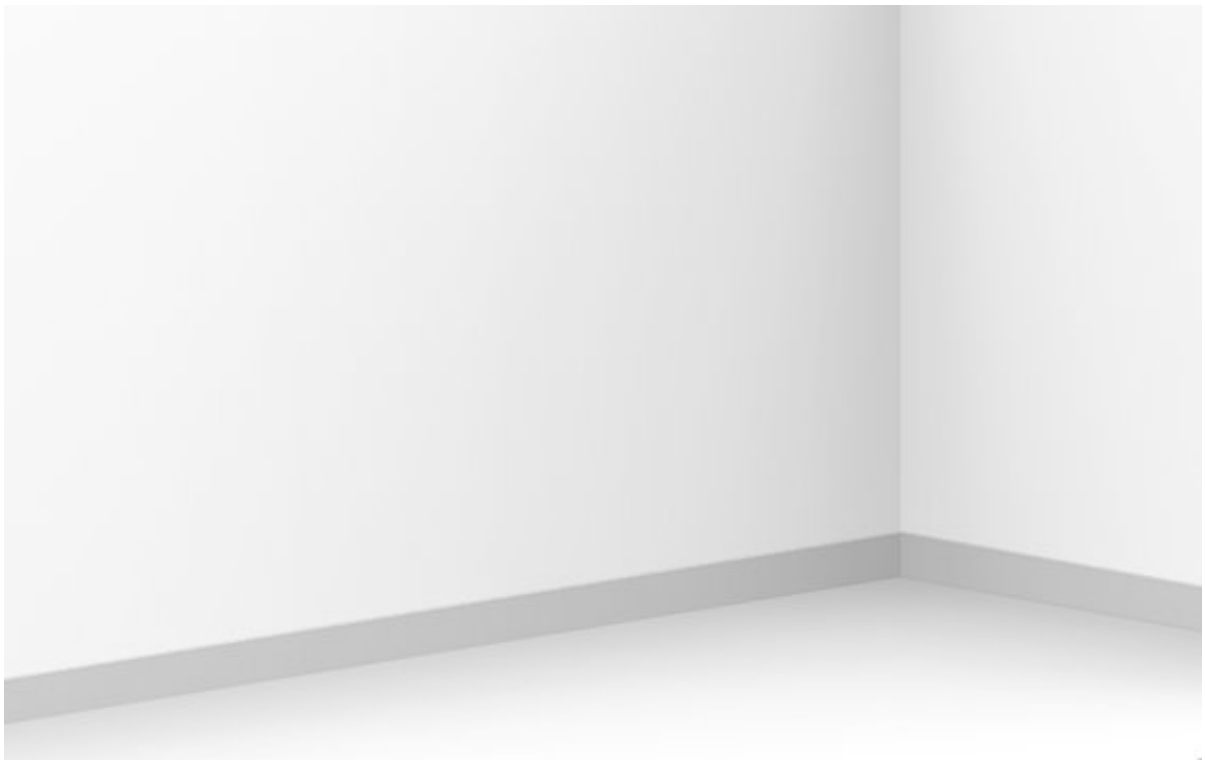
Reja:

- 3D

> **3D -** geometrik model bo'lib elementimizni fazodagi joylashuvini aniqlash uchun 3ta nuqtadan foydalaniladi



3D uchun misol



▼ **3D Transform**

> 💡 **3D Transform -** veb sahifamizdagi elementlarni uch o'lchovlik fazoda aylantirish, siljitish, o'lchovini o'zgartirish hisoblanadi

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> ❗ **2D** va **3D** "transform"lar uchun bir xil **transform** CSS xossasi ishlatiladi

3D transform uchun ishlatilinadigan "method"lar

▼ **rotate3d()**

> 💡 **Rotate3d -** elementni fazoda ko'rsatilgan qiymatlar bo'yicha aylantirish uchun ishlatiladi

Umumiy ko'rinishi

```
selector-nomi {
  transform: rotate3d(x-qiymat, y-qiymat, z-qiymat, daraja);
}
```

Misol

```
<style>
  .parent-box {
    width: 500px;
    height: 500px;
    border: 5px solid blue;
  }
  .box {
    width: 100%;
    height: 100%;
    transform: rotate3d(1, 2, -1, 30deg);
  }
</style>

---------------------
<div class="parent-box">
  <div class="box">X o'qi bo'yicha 10, Y bo'yicha 20 va Z bo'yicha 30 darajaga aylantirish</div>
</div>
```

💡 "**Rotate3d**"ning yana **rotateX(), rotateY()** va **rotateZ()** ko'rinishlari ham mavjud

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💡 **Perspective -** element foydalanuvchidan qanday uzoqlikda turganini belgilab beradi. Qiymat qancha kichik bo'lsa, foydalanuvchi elementga shuncha yaqin bo'ladi

```
<style>
  .parent-box {
    width: 500px;
    height: 500px;
    border: 5px solid blue;
  }
  .box {
    width: 100%;
    height: 100%;
    transform: perspective(100px) rotate3d(1, 2, -1, 30deg);
  }
</style>

---------------------
<div class="parent-box">
  <div class="box">X o'qi bo'yicha 10, Y bo'yicha 20 va Z bo'yicha 30 darajaga aylantirish</div>
</div>
```

rotate3d()

The CSS function defines a transformation that rotates an element around a fixed axis in 3D space, without deforming it. Its result is a data type. In 3D space, rotations have three degrees of liberty, which together describe a single axis of rotation.

https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/rotate3d()

rotateX()

The CSS function defines a transformation that rotates an element around the abscissa (horizontal axis) without deforming it. Its result is a data type. The axis of rotation passes through an origin, defined by the transform-origin CSS property. Note: Unlike rotations in the 2D plane, the composition of 3D rotations is usually

https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/rotateX()

rotateY()

The CSS function defines a transformation that rotates an element around the ordinate (vertical axis) without deforming it. Its result is a data type. The axis of rotation passes through an origin, defined by the transform-origin CSS property. Note: Unlike rotations in the 2D plane, the composition of 3D rotations is usually not

https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/rotateY()

rotateZ()

The CSS function defines a transformation that rotates an element around the z-axis without deforming it. Its result is a data type. The axis of rotation passes through an origin, defined by the transform-origin CSS property. Note: Unlike rotations in the 2D plane, the composition of 3D rotations is usually not commutative.

https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/rotateZ()

▼ translate3d()

💡 **Translate3d -** elementni fazoda ko'rsatilgan qiymatlar bo'yicha siljitish uchun ishlatiladi

Umumiy ko'rinishi

```
selector-nomi {
  transform: translate3d(x-qiymat, y-qiymat, z-qiymat);
}
```

Misol

```
<style>
  .box {
```

```
    width: 500px;
    height: 500px;
    background-color: red;
    transform: translate3d(10px, 20px, 30px);
  }
</style>

--------------------
<div class="box">X o'qi bo'yicha 10px, Y bo'yicha 20px va Z bo'yicha 30pxga siljitish</div>
```

"**Translate3d**"ning yana **translateX()**, **translateY()** va **translateZ()** ko'rinishlari ham mavjud

translate3d()

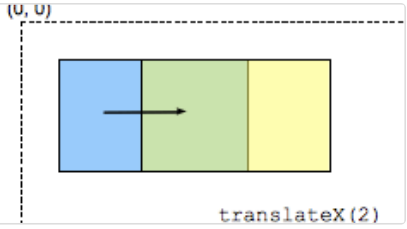
The translate3d() CSS function repositions an element in 3D space. Its result is a data type. This transformation is characterized by a three-dimensional vector. Its coordinates define how much the element moves in each direction. BCD tables only load in the browser

https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/translate3d()

translateX()

The translateX() CSS function repositions an element horizontally on the 2D plane. Its result is a data type. Is a or representing the abscissa of the translating vector. A percentage value refers to the

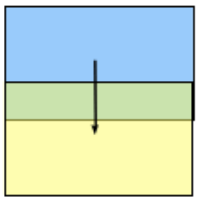
https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/translateX



translateY()

The translateY() CSS function repositions an element vertically on the 2D plane. Its result is a data type. The value is a or representing the ordinate of the translating vector. A percentage value refers to

https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/translateY()



translateZ()

The translateZ() CSS function repositions an element along the z-axis in 3D space, i.e., closer to or farther away from the viewer. Its result is a data type. This transformation is defined by a which specifies how far inward or outward the element or elements move.

https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/translateZ()

▼ scale3d()

Scale3d - elementni fazoda ko'rsatilgan qiymatlar bo'yicha o'lchovini o'zgartirish uchun ishlatiladi

Umumiy ko'rinishi

```
selector-nomi {
  transform: scale3d(x-qiymat, y-qiymat, z-qiymat);
}
```

Misol

```
<style>
  .parent-box {
    width: 500px;
    height: 500px;
    border: 5px solid blue;
  }
  .box {
    width: 100%;
    height: 100%;
    transform: scale3d(2, 3, 4);
  }
</style>

--------------------
<div class="parent-box">
  <div class="box">X o'qi bo'yicha 2, Y bo'yicha 3 va Z bo'yicha 4 barobarga kattalashtirish</div>
</div>
```

💡 "**Scale3d**"ning yana **scaleX(), scaleY()** va **scaleZ()** ko'rinishlari ham mavjud

scale3d()

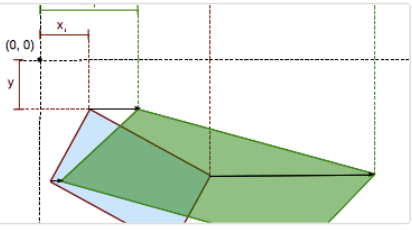
The CSS function defines a transformation that resizes an element in 3D space. Because the amount of scaling is defined by a vector, it can resize different dimensions at different scales. Its result is a data type. This scaling transformation is characterized by a three-dimensional vector.

https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/scale3d()

scaleX()

The CSS function defines a transformation that resizes an element along the x-axis (horizontally). Its result is a data type. It modifies the abscissa of each element point by a constant factor, except when

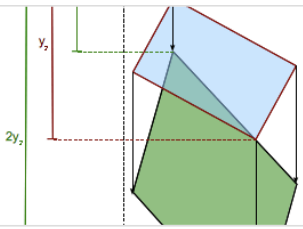
https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/scaleX()



scaleY()

The CSS function defines a transformation that resizes an element along the y-axis (vertically). Its result is a data type. It modifies the ordinate of each element point by a constant factor, except when the

https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/scaleY()



scaleZ()

The CSS function defines a transformation that resizes an element along the z-axis. Its result is a data type. This scaling transformation modifies the z-coordinate of each element point by a constant factor, except when the scale factor is 1, in which case the function is the identity transform.

https://developer.mozilla.org/en-US/docs/Web/CSS/transform-function/scaleZ()

Resources:

https://www.tornado-studios.com/blog/what-3d-modeling

https://stock.adobe.com/ee/search?k=corner+wall