<https://developer.mozilla.org/en-US/docs/Web/SVG/Attribute/transform>

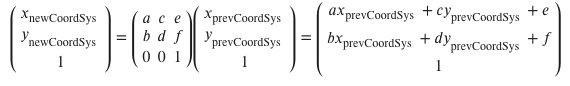
### [Matrix](https://developer.mozilla.org/en-US/docs/Web/SVG/Attribute/transform#matrix)

The matrix(<a> <b> <c> <d> <e> <f>) transform function specifies a transformation in the form of a transformation matrix of six values. matrix(a,b,c,d,e,f) is equivalent to applying the transformation matrix:

(acebdf001)



which maps coordinates from a previous coordinate system into a new coordinate system by the following matrix equalities:



(xnewCoordSysynewCoordSys1)=(acebdf001)(xprevCoordSysyprevCoordSys1)=(axprevCoordSys+cyprevCoordSys+ebxprevCoordSys+dyprevCoordSys+f1)

A 0.984807753012

B 0.173648177667

C -0.173648177667

D 0.984807753012

E 0

F 0

<svg viewBox="0 0 200 200" xmlns="http://www.w3.org/2000/svg">

<rect x="10" y="10" width="30" height="20" fill="green" />

<!--

In the following example we are applying the matrix:

[a c e] [3 -1 30]

[b d f] => [1 3 40]

[0 0 1] [0 0 1]

which transform the rectangle as such:

top left corner: oldX=10 oldY=10

newX = a \* oldX + c \* oldY + e = 3 \* 10 - 1 \* 10 + 30 = 50

newY = b \* oldX + d \* oldY + f = 1 \* 10 + 3 \* 10 + 40 = 80

top right corner: oldX=40 oldY=10

newX = a \* oldX + c \* oldY + e = 3 \* 40 - 1 \* 10 + 30 = 140

newY = b \* oldX + d \* oldY + f = 1 \* 40 + 3 \* 10 + 40 = 110

bottom left corner: oldX=10 oldY=30

newX = a \* oldX + c \* oldY + e = 3 \* 10 - 1 \* 30 + 30 = 30

newY = b \* oldX + d \* oldY + f = 1 \* 10 + 3 \* 30 + 40 = 140

bottom right corner: oldX=40 oldY=30

newX = a \* oldX + c \* oldY + e = 3 \* 40 - 1 \* 30 + 30 = 120

newY = b \* oldX + d \* oldY + f = 1 \* 40 + 3 \* 30 + 40 = 170

-->

<rect x="10" y="10" width="30" height="20" fill="red"

transform="matrix(3 1 -1 3 30 40)" />

</svg>