

Syntax Reference

Direction Characters

- W/w: Up (w = hidden)
- A/a: Left (a = hidden)
- S/s: Down (s = hidden)
- D/d: Right (d = hidden)

Fill Position Strings

Format	Description
"x-y"	Flood fill from cell (x,y)
"[x-y]"	Fill only cell (x,y)
" "	Global fill
"top-left", etc.	Named positions

Common Patterns

"DD"	// Horizontal line	"DSDS"	// Diagonal steps
"SS"	// Vertical line	"DDSSAAWW"	// Complete border

Stroke Styles

red + 2pt	//	(dash: "dashed")	//
Color + thickness		Dashed line	
(paint: blue, thickness: 3pt)	//	(dash: "dotted")	//
Dictionary style		Dotted line	

Multiple Paths

```
pave: (  
  (path: "DD", stroke: red + 2pt),  
  (path: "SS", from: "top-right", stroke: blue + 1pt)  
)
```

Basic Examples

Simple Path

```
#pavemat(  
  $ mat(1, 2, 3; 4, 5, 6; 7, 8, 9) $,  
  pave: "DDSSAA"  
)
```

$$\begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{pmatrix}$$

Path + Fills

```
#pavemat(  
  $ mat(a, b, c; d, e, f; g, h, i) $,  
  pave: "DDSS",  
  fills: (  
    "0-0": red.transparentize(80%),  
    "[2-2]": blue.transparentize(80%)  
  )  
)
```

$$\begin{pmatrix} a & b & c \\ d & e & f \\ g & h & i \end{pmatrix}$$

Styled Paths

```
#pavemat(  
  $ mat(1, 2, 3, 4; 5, 6, 7, 8; 9, 10, 11, 12) $,  
  pave: "DDD(paint: red, thickness: 2pt)SS(paint: blue, dash: 'dotted')AAA"  
)
```

$$\begin{pmatrix} 1 & 2 & 3 & 4 \\ 5 & 6 & 7 & 8 \\ 9 & 10 & 11 & 12 \end{pmatrix}$$

Multiple Paths

```
#pavemat(  
  $ mat(1, 2, 3; 4, 5, 6; 7, 8, 9) $,  
  pave: (  
    (path: "DD", stroke: red + 2pt),  
    (path: "SS", from: "top-right", stroke: blue + 2pt),  
    (path: "AA", from: "bottom-right", stroke: green + 2pt)  
  )  
)
```

$$\begin{pmatrix} \overline{1} & 2 & \overline{3} \\ 4 & 5 & 6 \\ 7 & 8 & \underline{9} \end{pmatrix}$$

Advanced Examples

Custom Directions

```
#pavemat(  
  $ mat(α, β, γ; δ, ε, ζ; η, θ, ι) $,  
  pave: "RRDDUULL",  
  dir-chars: (up: "U", down: "D", left: "L", right: "R"),  
  stroke: purple + 1.5pt  
)
```

$$\begin{pmatrix} \overline{\alpha} & \overline{\beta} & \overline{\gamma} \\ \overline{\delta} & \overline{\varepsilon} & \overline{\zeta} \\ \overline{\eta} & \overline{\theta} & \overline{\iota} \end{pmatrix}$$

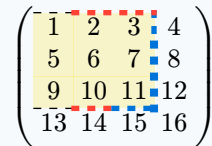
Matrix Separator

```
#pavemat(  
  $ mat(2, 1, 3, 8; 1, -1, 0, 2; 3, 2, -1, 1) $,  
  pave: (path: "SSS", from: (0, 3), stroke: black),  
  fills: (  
    "[0-3]": blue.transparentize(80%),  
    "[1-3]": blue.transparentize(80%),  
    "[2-3]": blue.transparentize(80%)  
  ),  
  delim: "[ "  
)
```

$$\begin{bmatrix} 2 & 1 & 3 & \boxed{8} \\ 1 & -1 & 0 & \boxed{2} \\ 3 & 2 & -1 & \boxed{1} \end{bmatrix}$$

Style Scoping

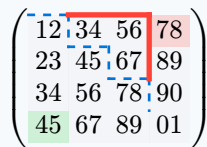
```
#pavemat(  
  $ mat(1, 2, 3, 4; 5, 6, 7, 8; 9, 10, 11, 12; 13, 14, 15, 16) $,  
  pave: "D(paint: red, thickness: 2pt)DD(paint: blue)S(thickness: 3pt)SS]A]A]A",  
  fills: ("1-1": yellow.transparentize(80%))  
)
```



Use Cases

Data Analysis

```
#let data = $ mat(12, 34, 56, 78; 23, 45, 67, 89; 34, 56, 78, 90; 45, 67, 89, 01)  
$  
#pavemat(  
  data,  
  pave: (  
    (path: "DDSSSS", stroke: red + 2pt),           // Main path  
    (path: "DSDSDS", stroke: (paint: blue, thickness: 1pt, dash: "dashed")) //  
  Flow  
  ),  
  fills: (  
    "": gray.transparentize(95%),           // Background  
    "[0-3]": red.transparentize(80%),       // Max  
    "[3-0]": green.transparentize(80%)      // Min  
  )  
)
```



Algorithm Steps

```
#pavemat(  
$ mat(5, 2, 8, 1; 2, 5, 8, 1; 2, 5, 1, 8; 1, 2, 5, 8) $,  
pave: (  
  (path: "D", from: (1,0), stroke: red + 2pt),      // Step 1  
  (path: "D", from: (2,0), stroke: orange + 2pt),   // Step 2  
  (path: "D", from: (3,1), stroke: blue + 2pt)      // Step 3  
),  
fills: (  
  "[3-0]": green.transparentize(80%),  
  "[3-1]": green.transparentize(80%),  
  "[3-2]": green.transparentize(80%),  
  "[3-3]": green.transparentize(80%)  
)  
)
```

$$\begin{pmatrix} 5 & 2 & 8 & 1 \\ 2 & 5 & 8 & 1 \\ 2 & 5 & 1 & 8 \\ 1 & 2 & 5 & 8 \end{pmatrix}$$