

Masonry & item-flow

syntax discussion

Agenda

1. Review some key questions in the item-flow syntax discussion and take some quick “gut instinct” polls on each question independently.
 - ▶ row vs column
 - ▶ column-reverse/row-reverse vs wrap-reverse
 - ▶ property names
 - ▶ shorthanding
2. Rewind and open for discussion to bring it all together and resolve these questions together.

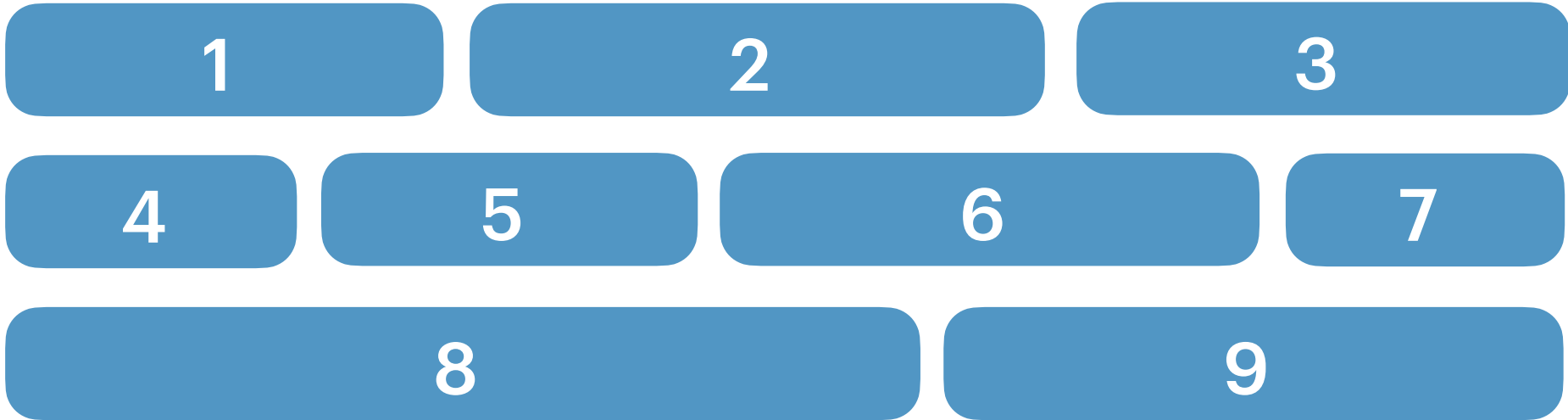
*The issues interrelate so we're doing the complete run-through before discussion.
Feel free to comment into IRC if you want to record your impressions as we go.*

Property	Values	Flexbox	Grid
item-direction <i>or</i> item-track	row column row-reverse column-reverse	(existing behavior)	(existing behavior)
item-wrap <i>or</i> item-cross	auto [[nowrap wrap] [normal reverse]] wrap-reverse	auto computes to nowrap	auto computes to wrap ; nowrap means autoplacement adds implicit tracks instead of wrapping to the next row
item-pack	normal dense balance	dense means backfilling items to open space earlier in the flow	(existing dense behavior)
		balance opts into balanced line-wrapping	
item-tolerance	normal <length-percentage> infinite	set a point to switch from loose packing to cramming in extra item	adjusts slack used in calculating placement for masonry-style layouts
item-flow	<'item-direction'> <'item-wrap'> <'item-pack'> <'item-slack'>		

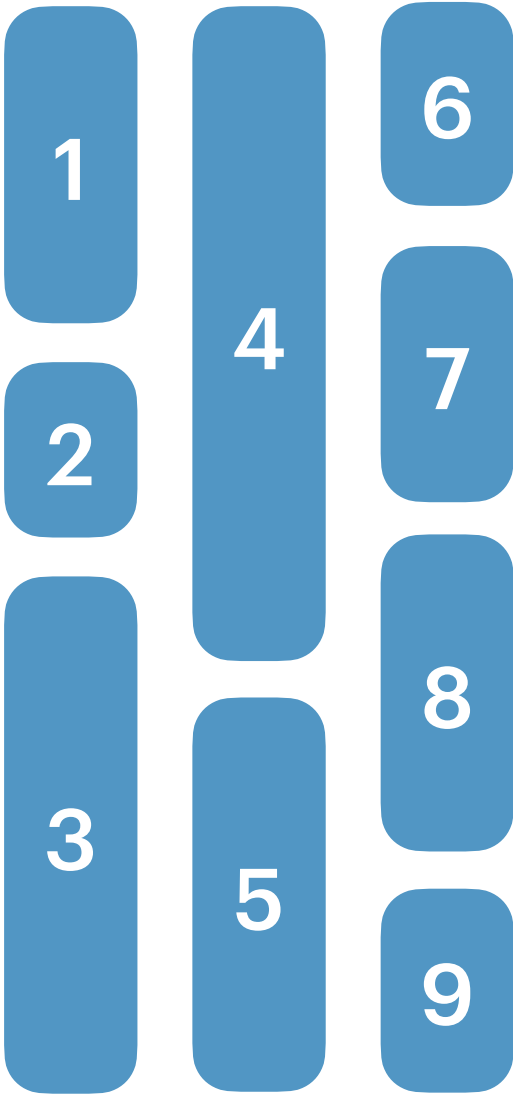
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Rows vs Columns

flex-flow + grid-auto-flow and masonry layout

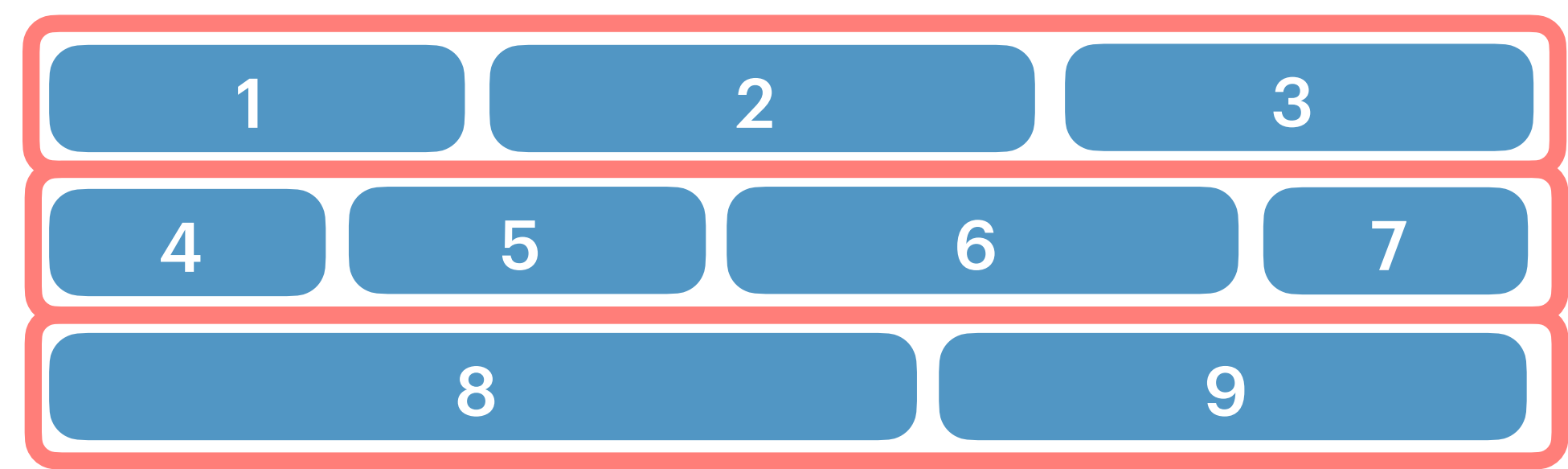


flex-flow: row wrap

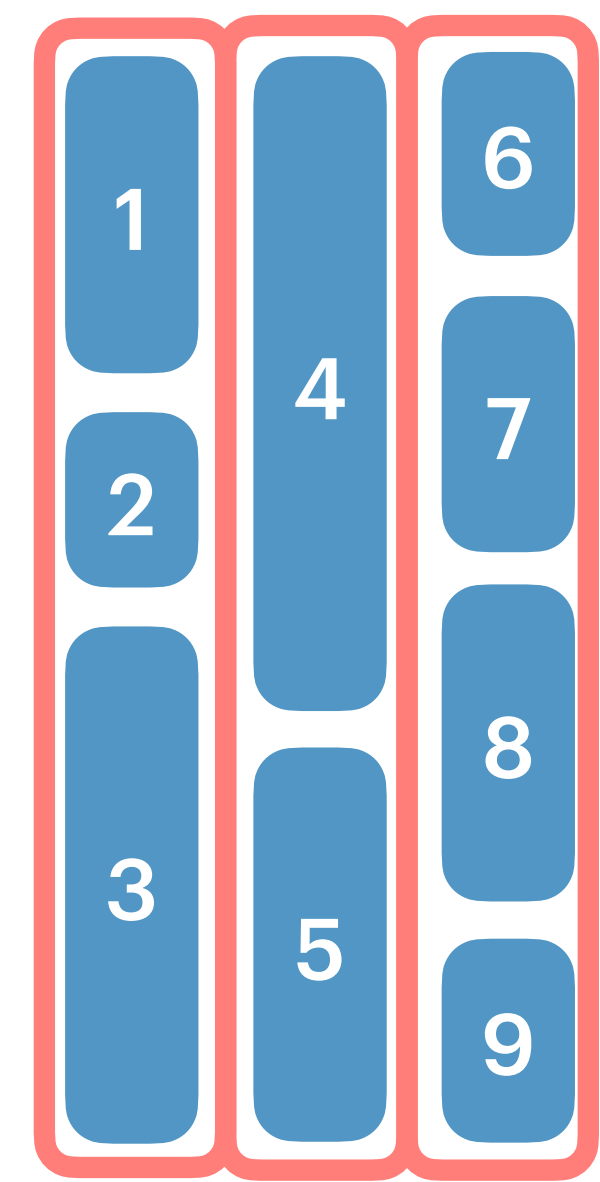


flex-flow: column wrap

flex-flow: shape of layout

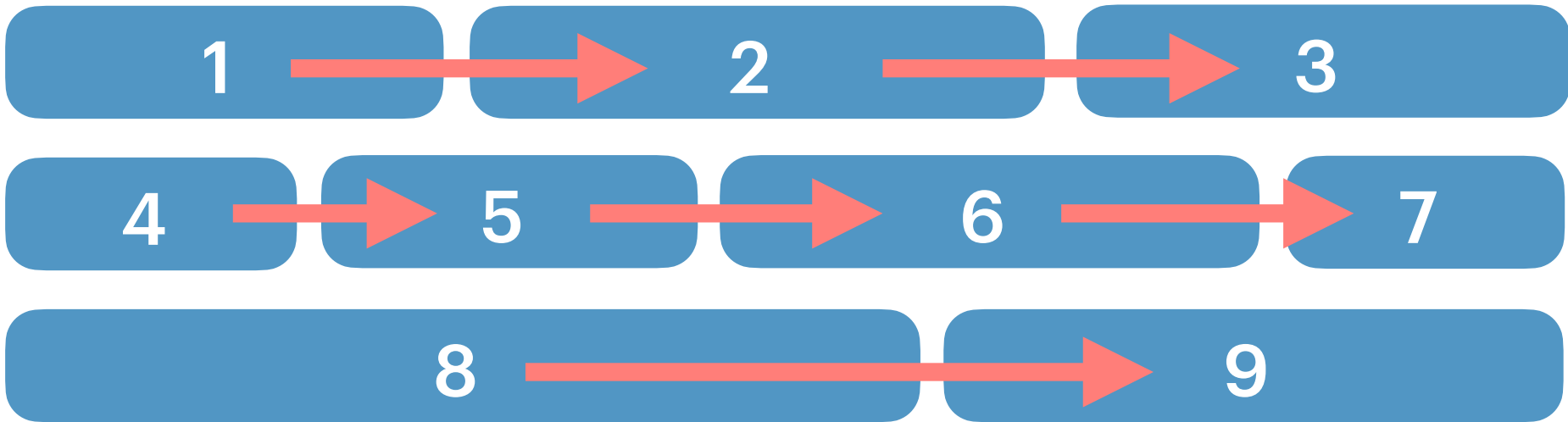


flex-flow: row wrap

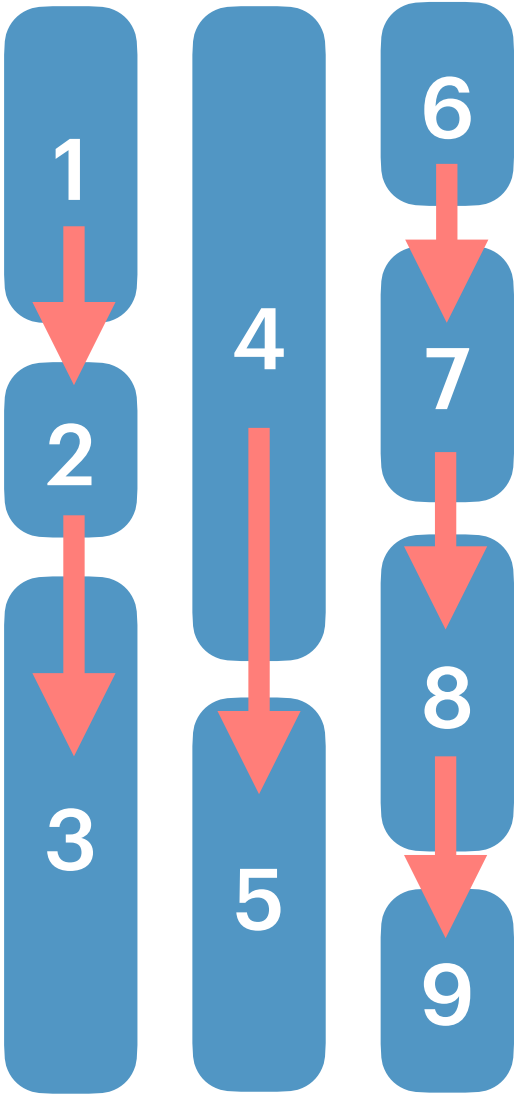


flex-flow: column wrap

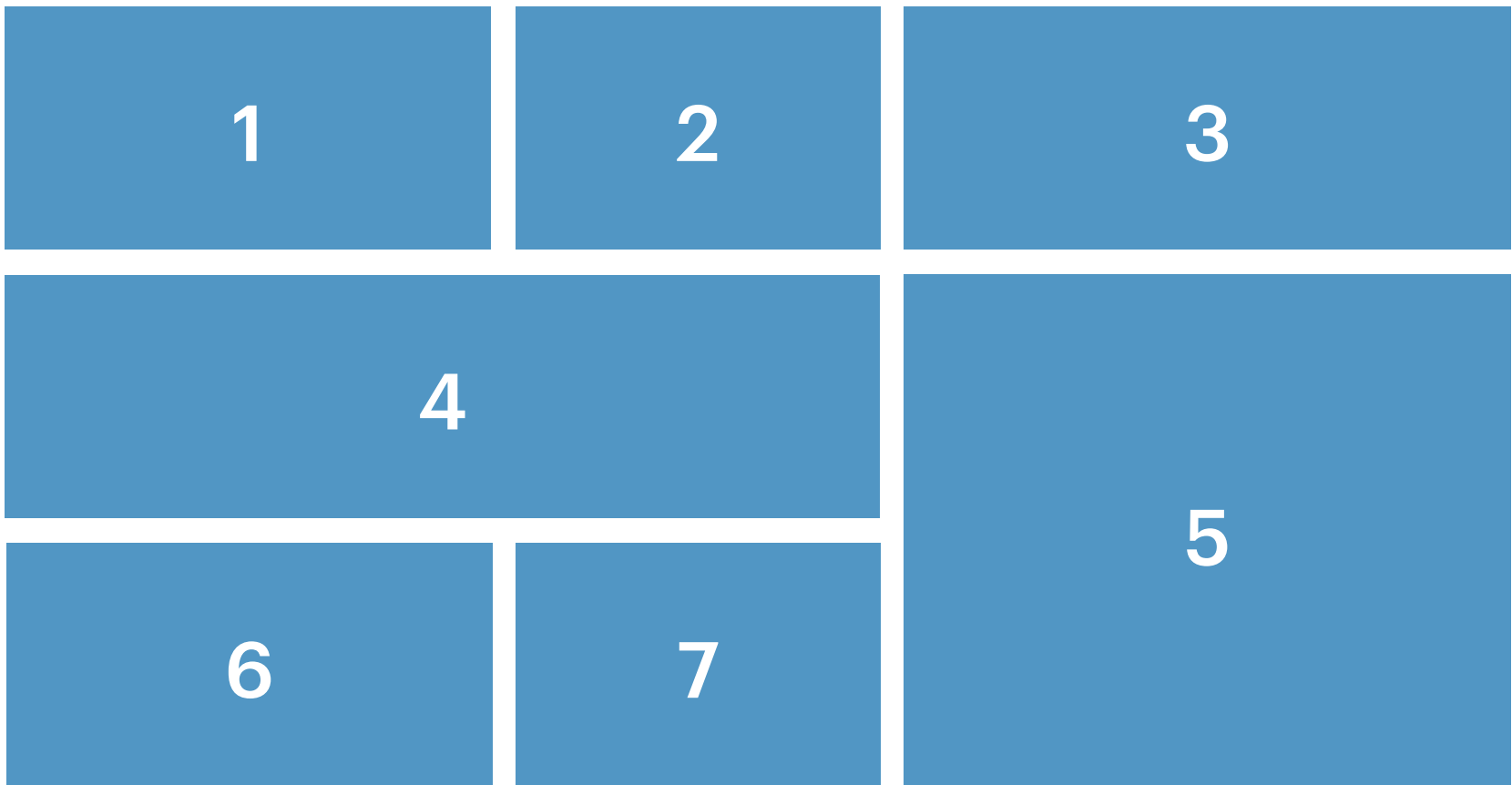
flex-flow: Flow of Layout



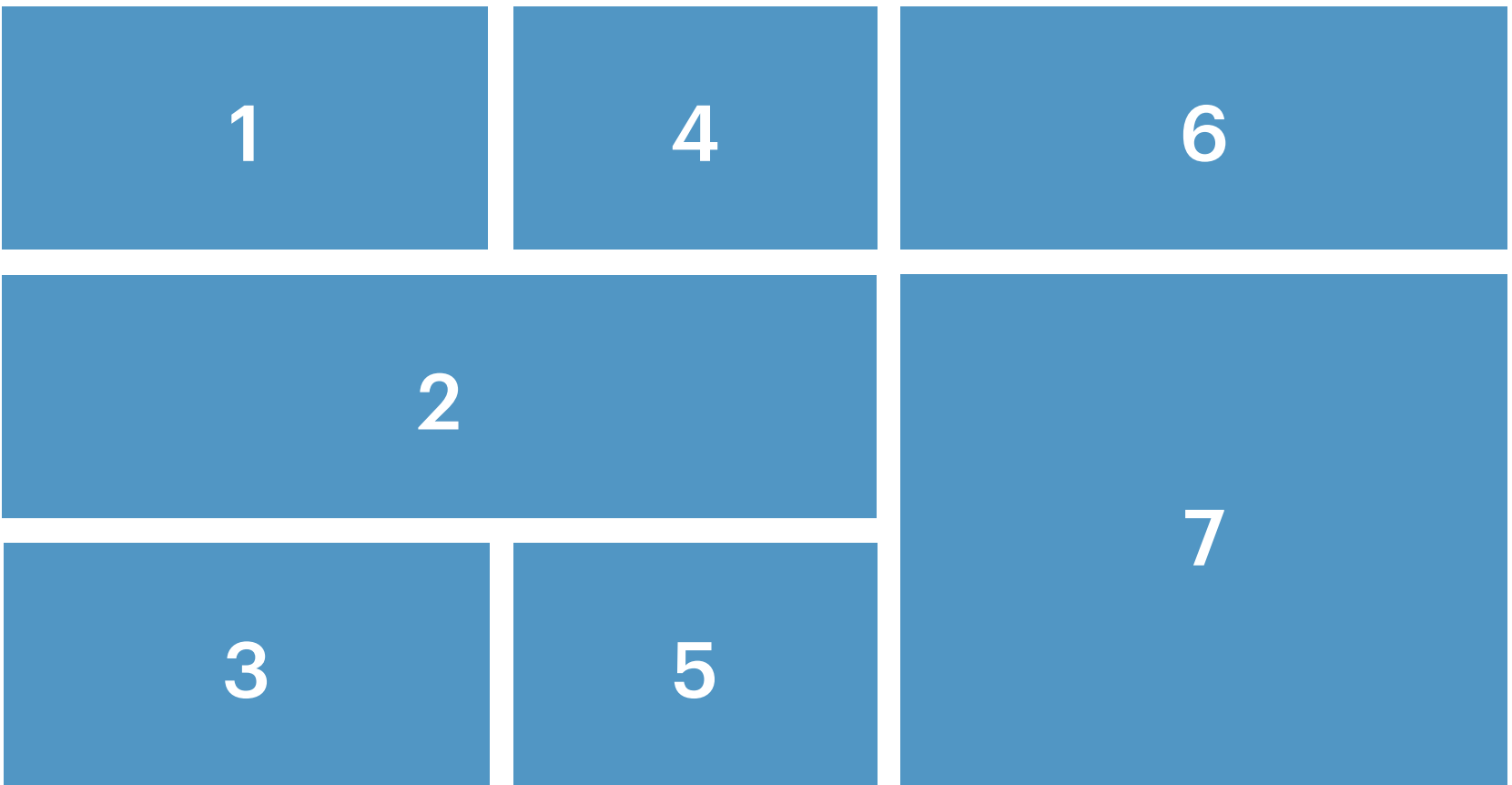
flex-flow: row wrap



flex-flow: column wrap

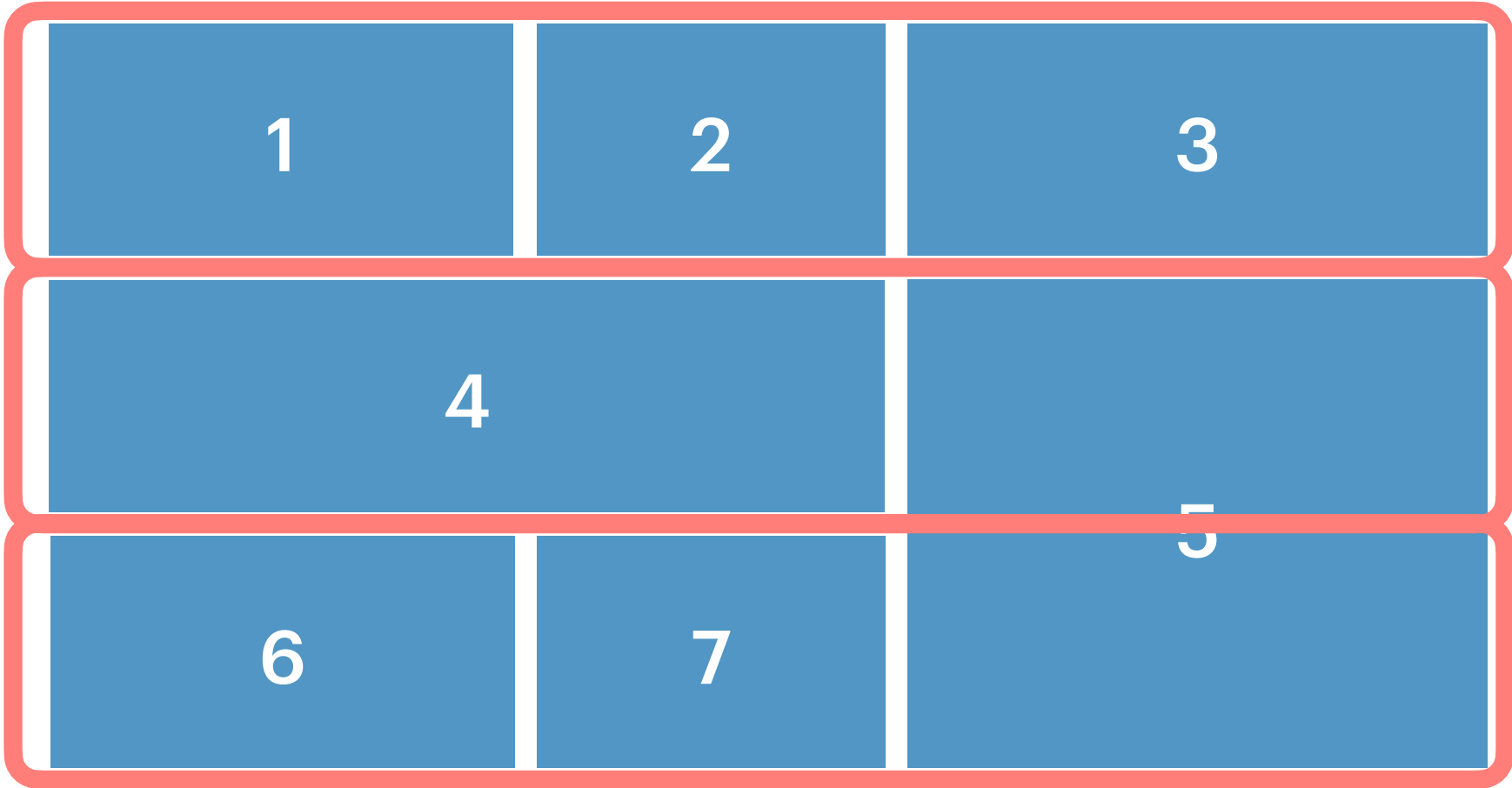


grid-auto-flow: row

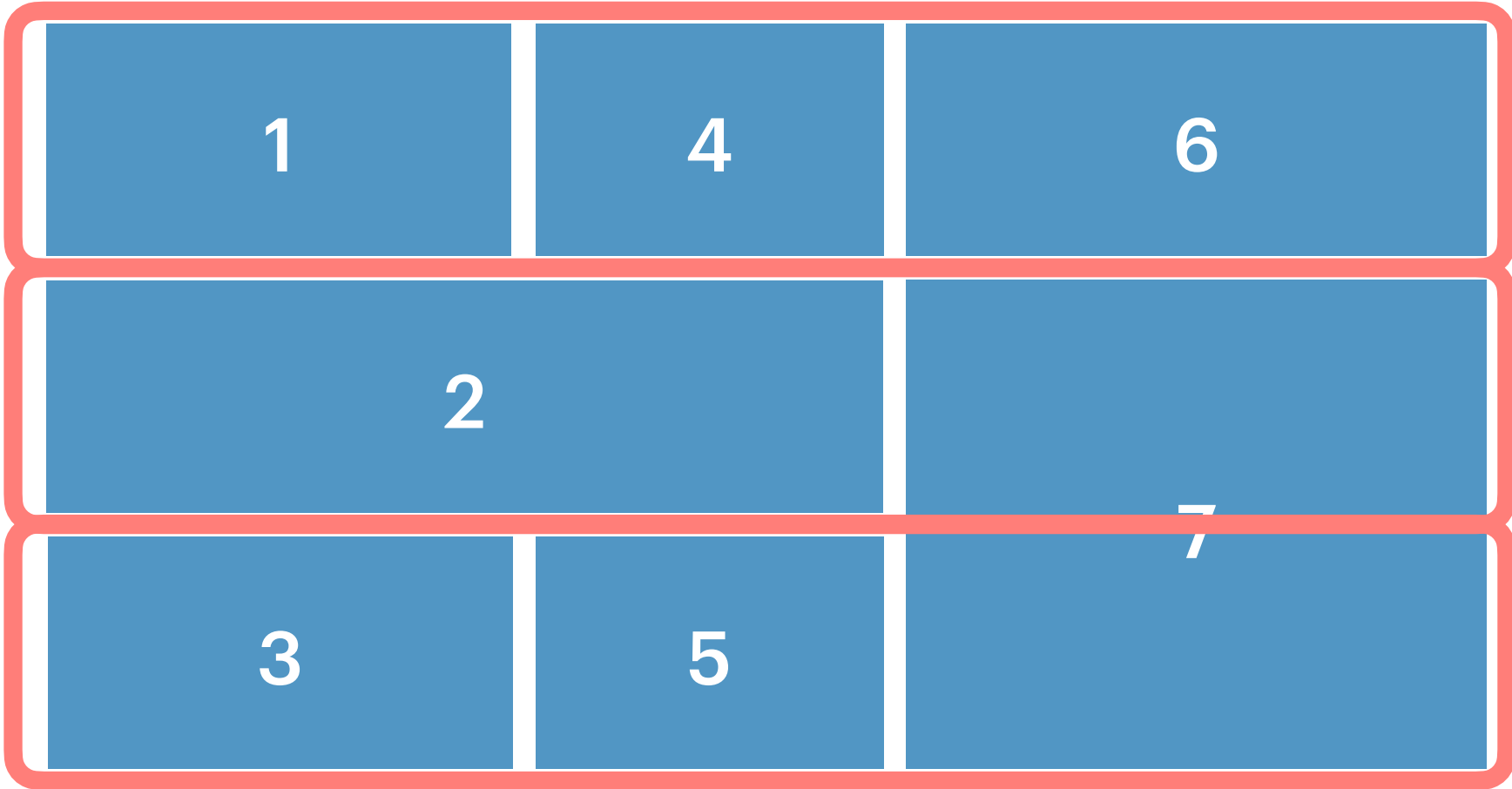


grid-auto-flow: column

grid-auto-flow: Shape of Layout

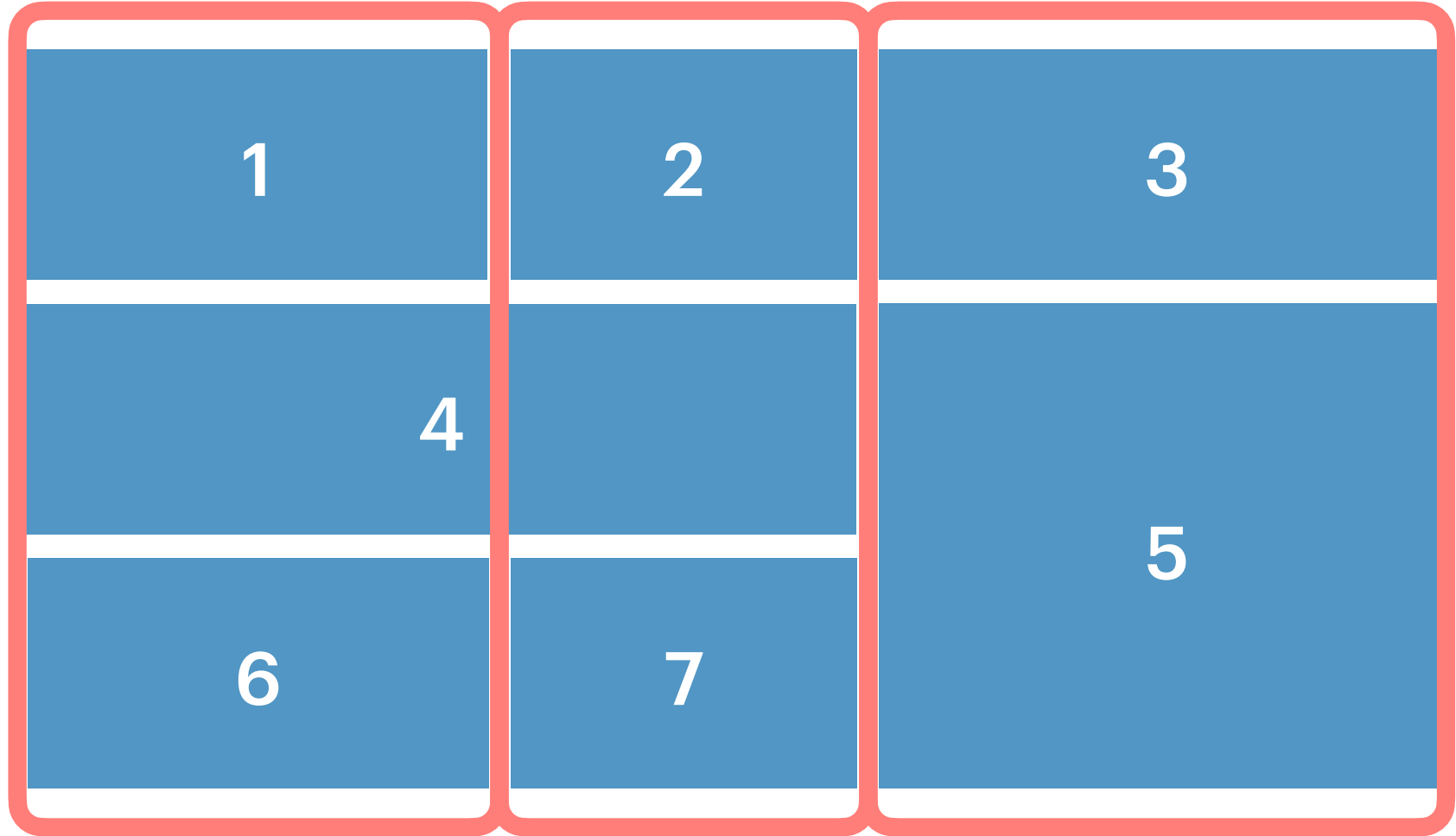


grid-auto-flow: row

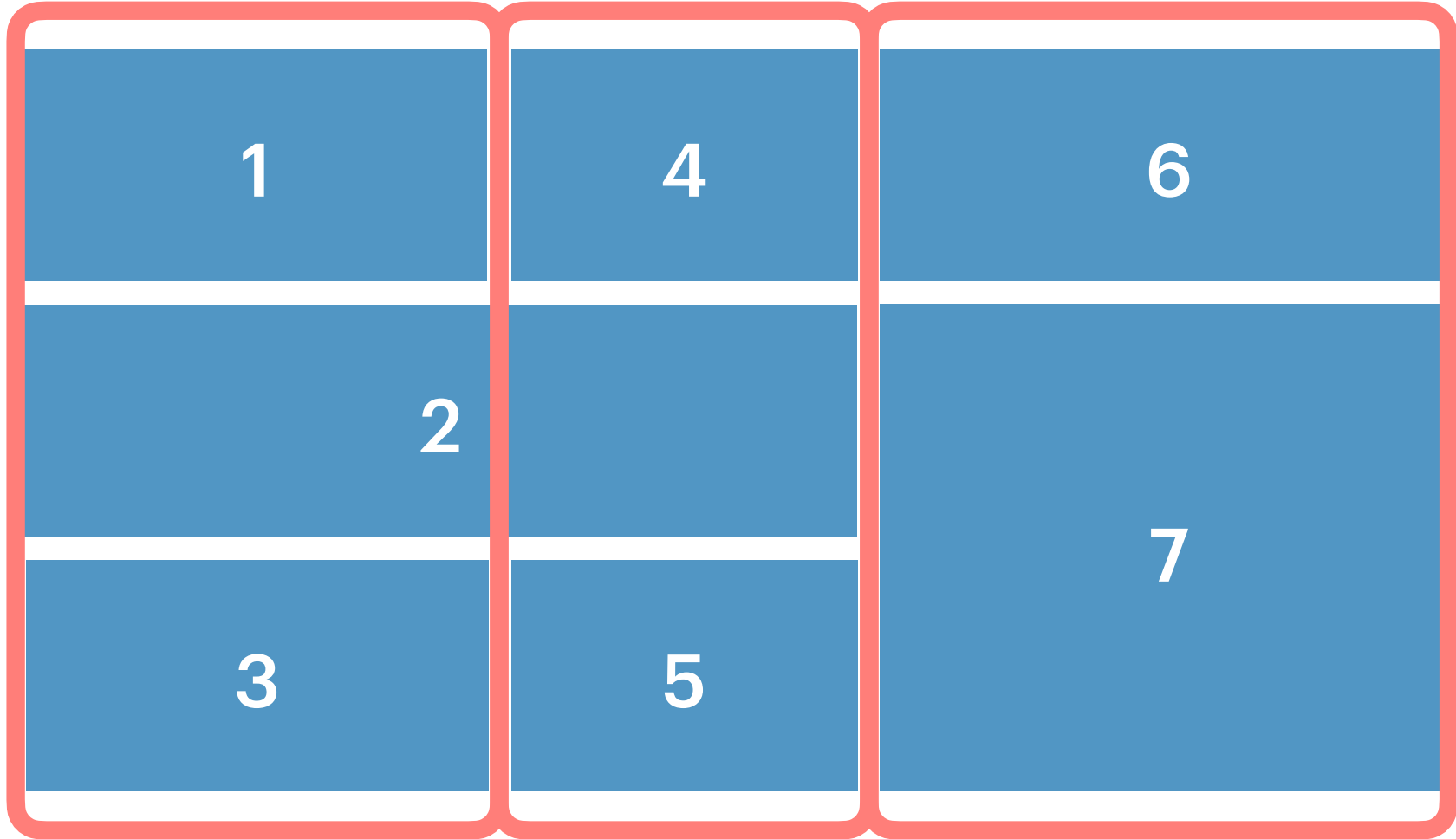


grid-auto-flow: column

grid-auto-flow: Shape of Layout

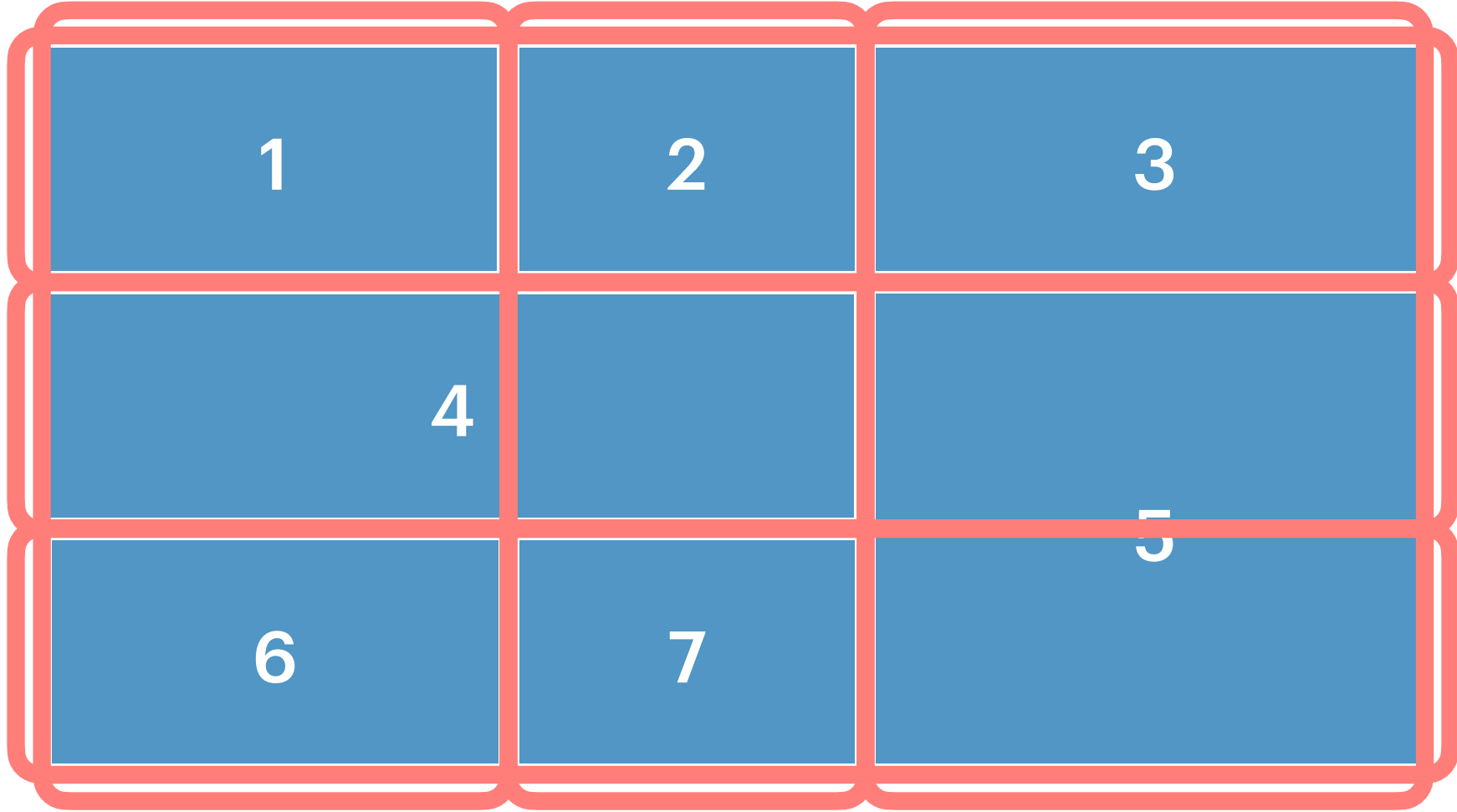


grid-auto-flow: row

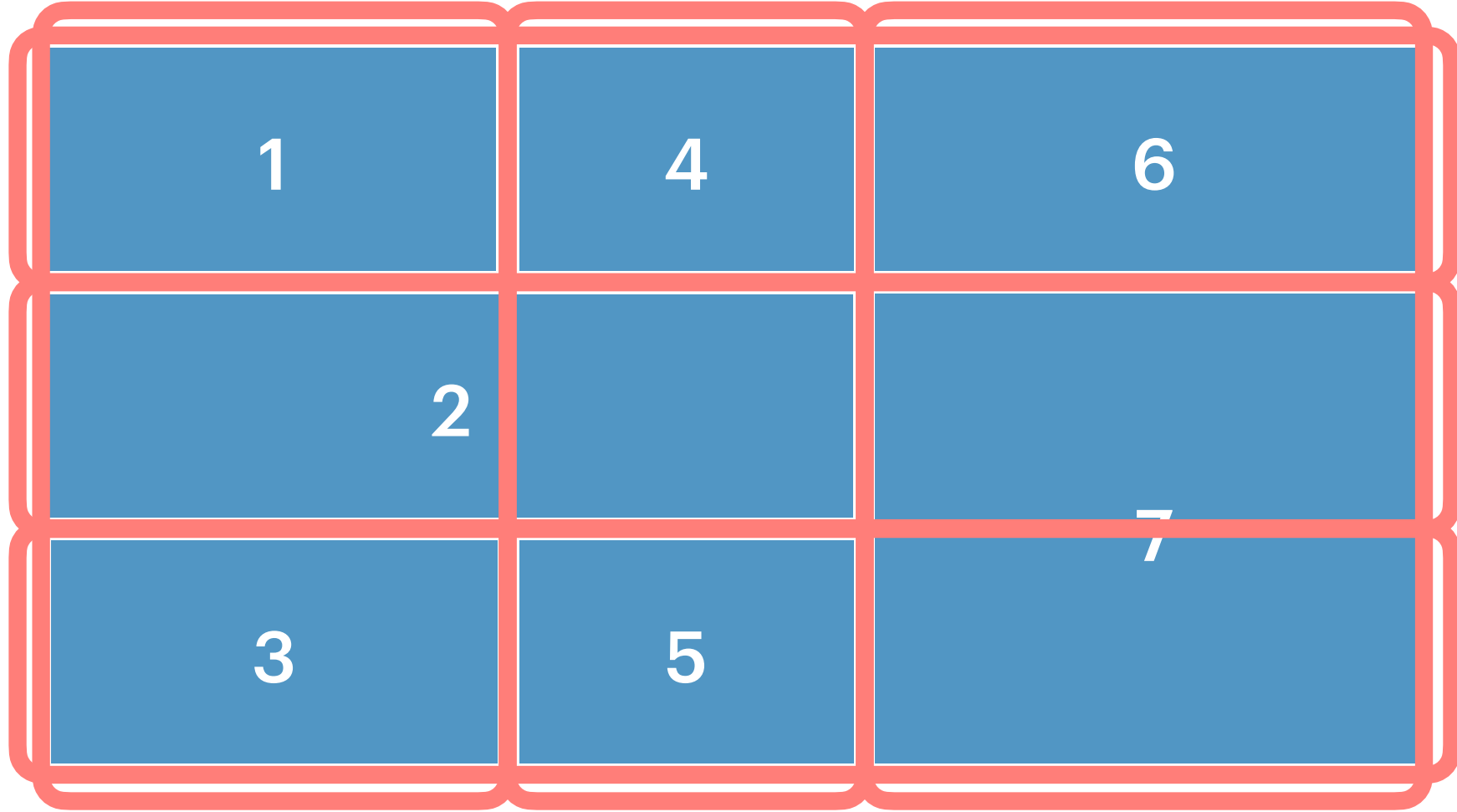


grid-auto-flow: column

grid-auto-flow: Shape of Layout

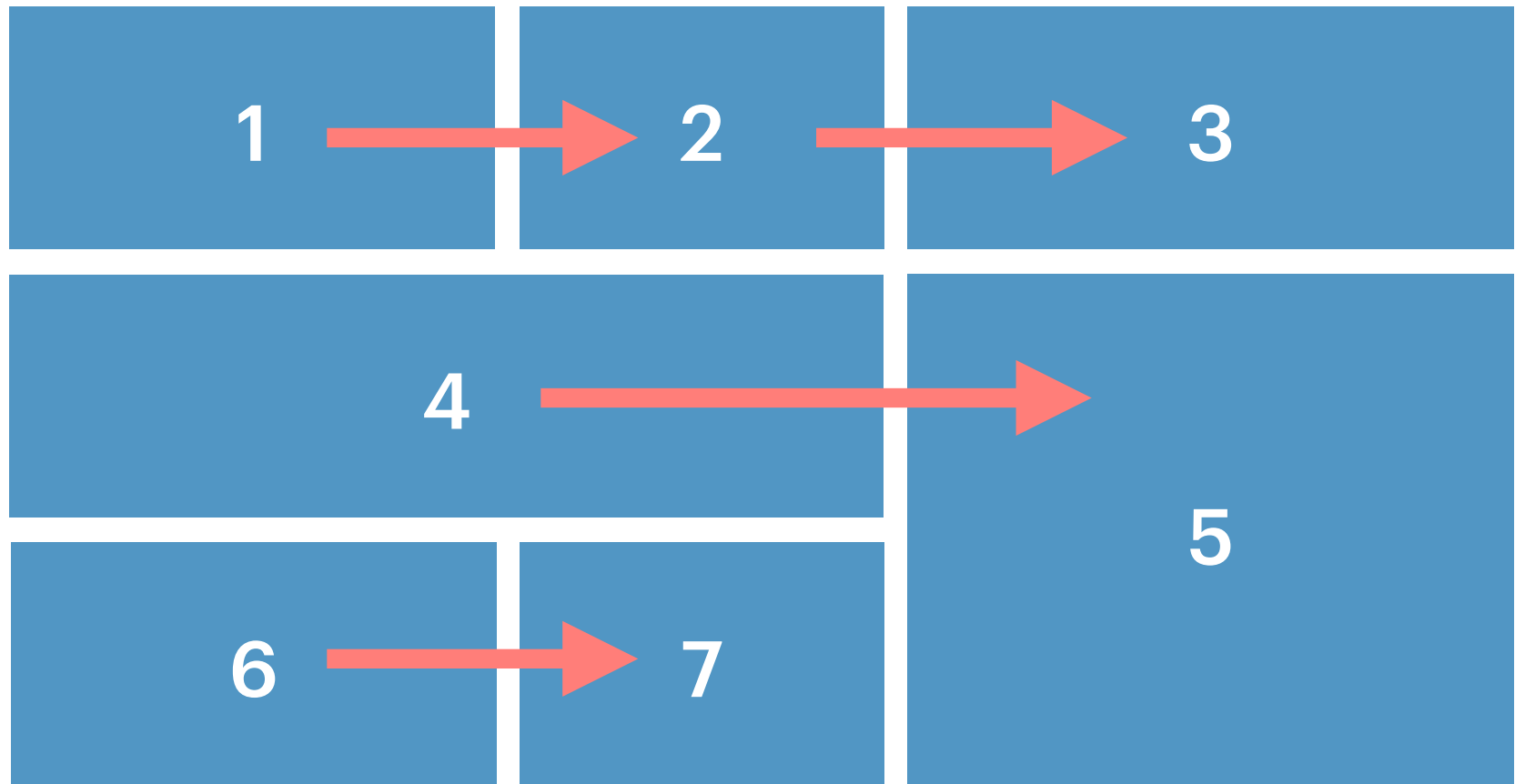


grid-auto-flow: row

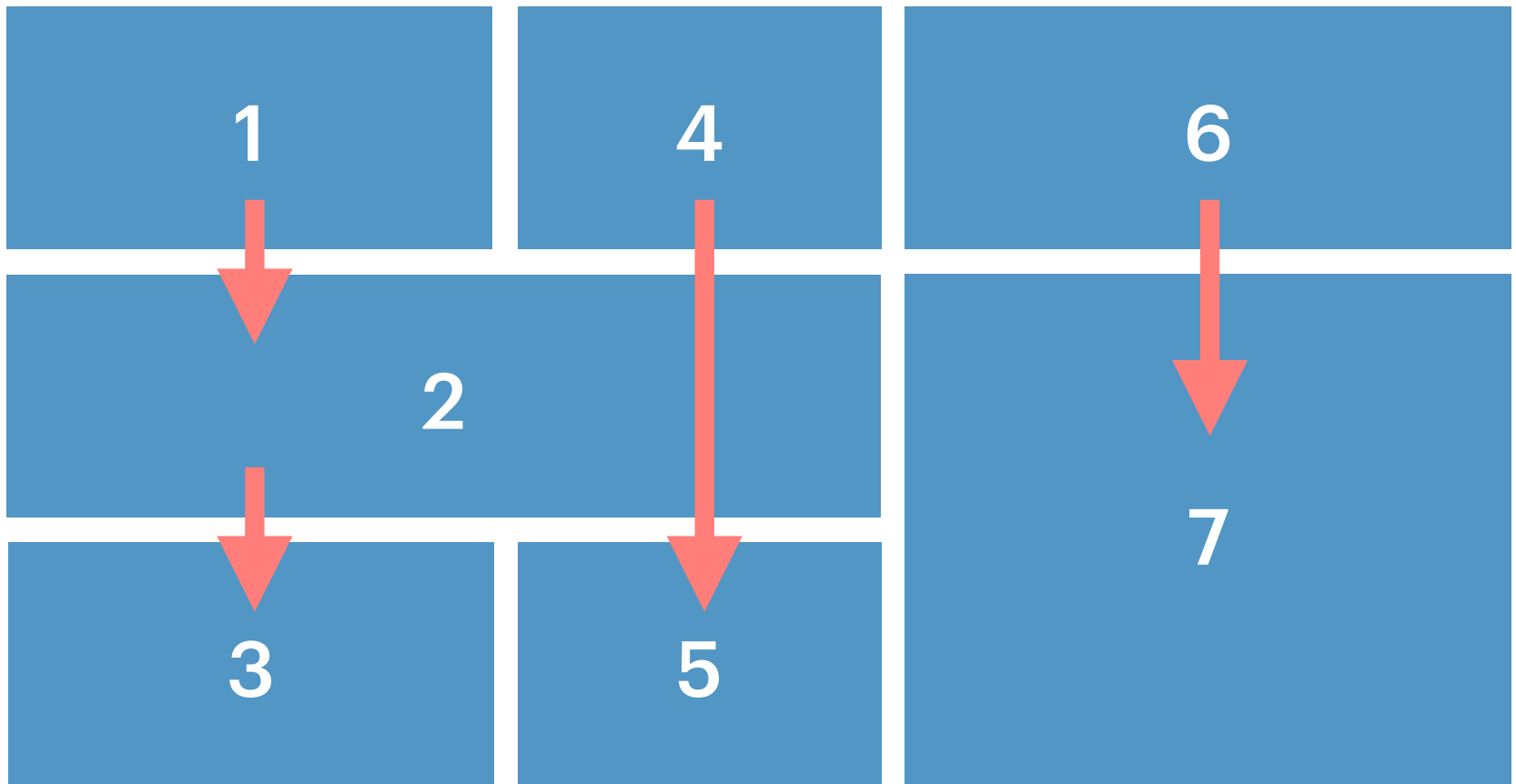


grid-auto-flow: column

grid-auto-flow: Flow of Layout

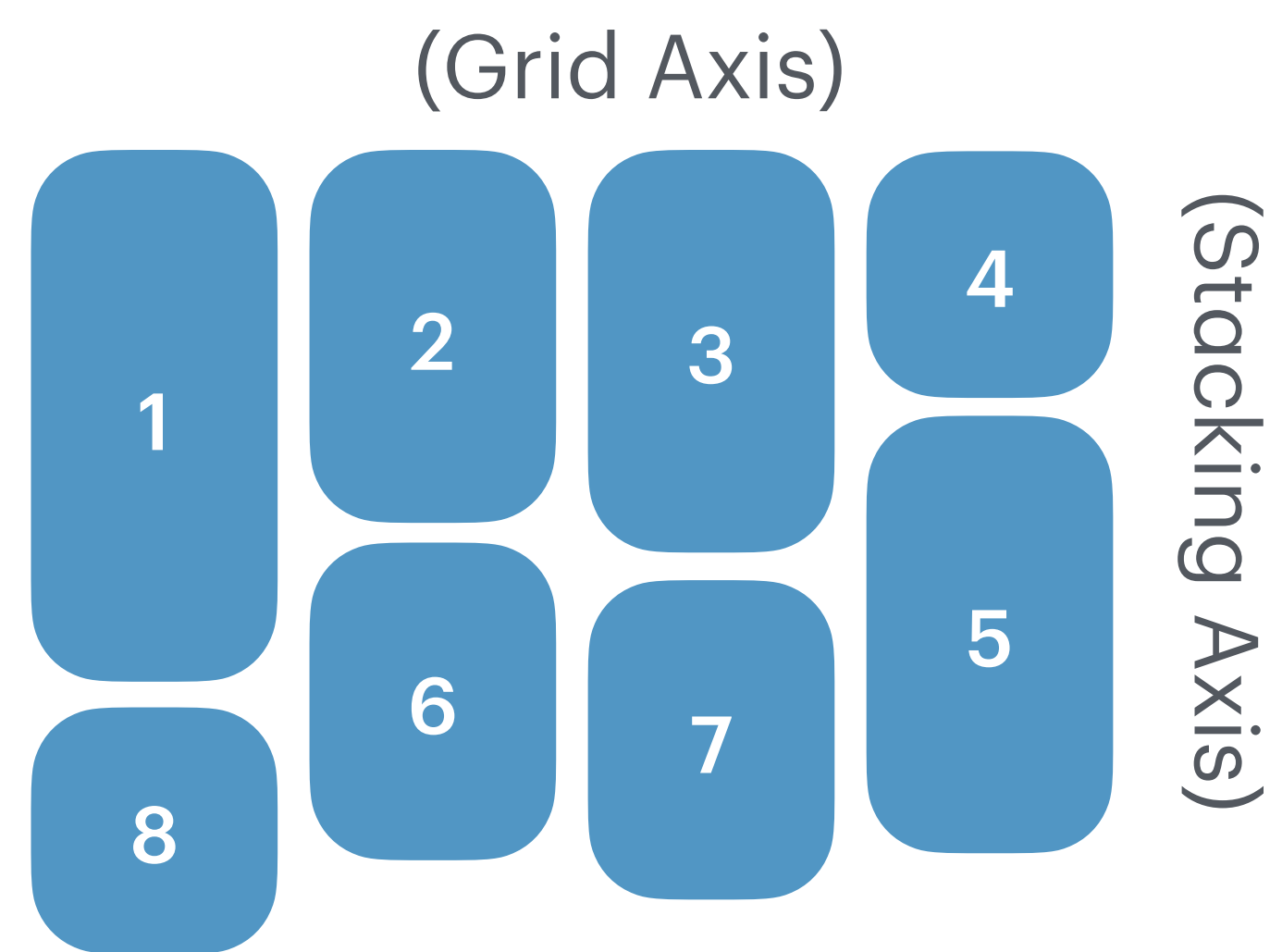


grid-auto-flow: row

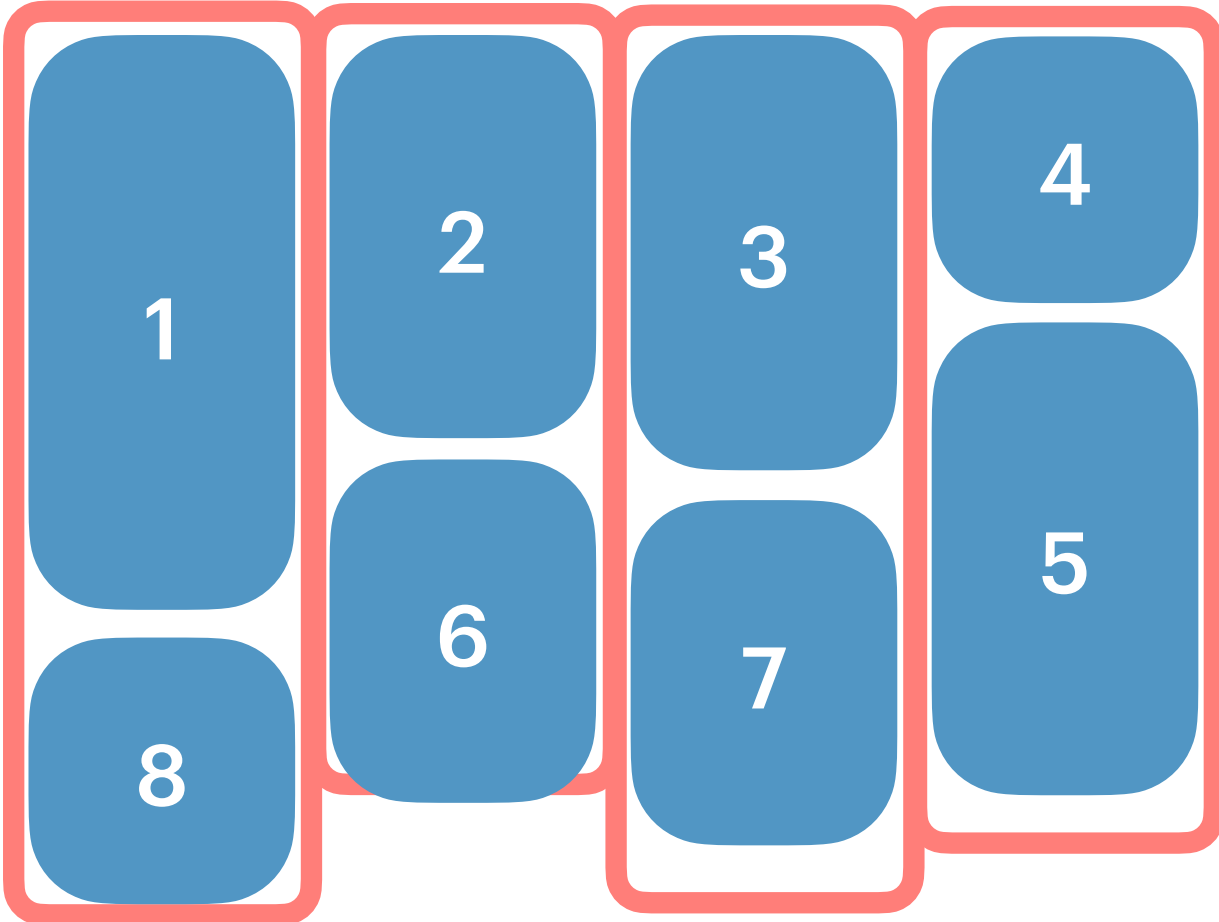


grid-auto-flow: column

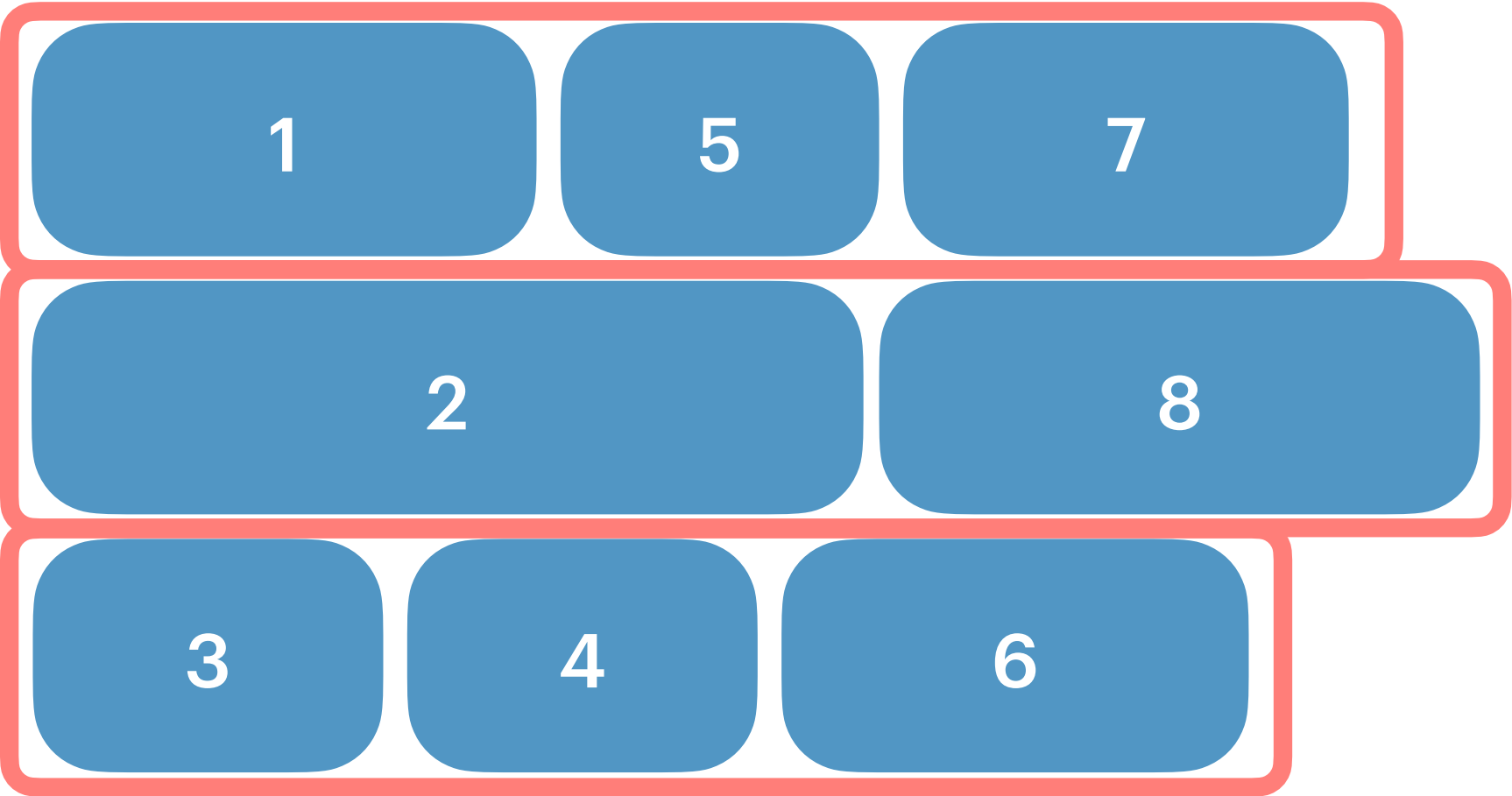
masonry flow



masonry flow: Shape of Layout

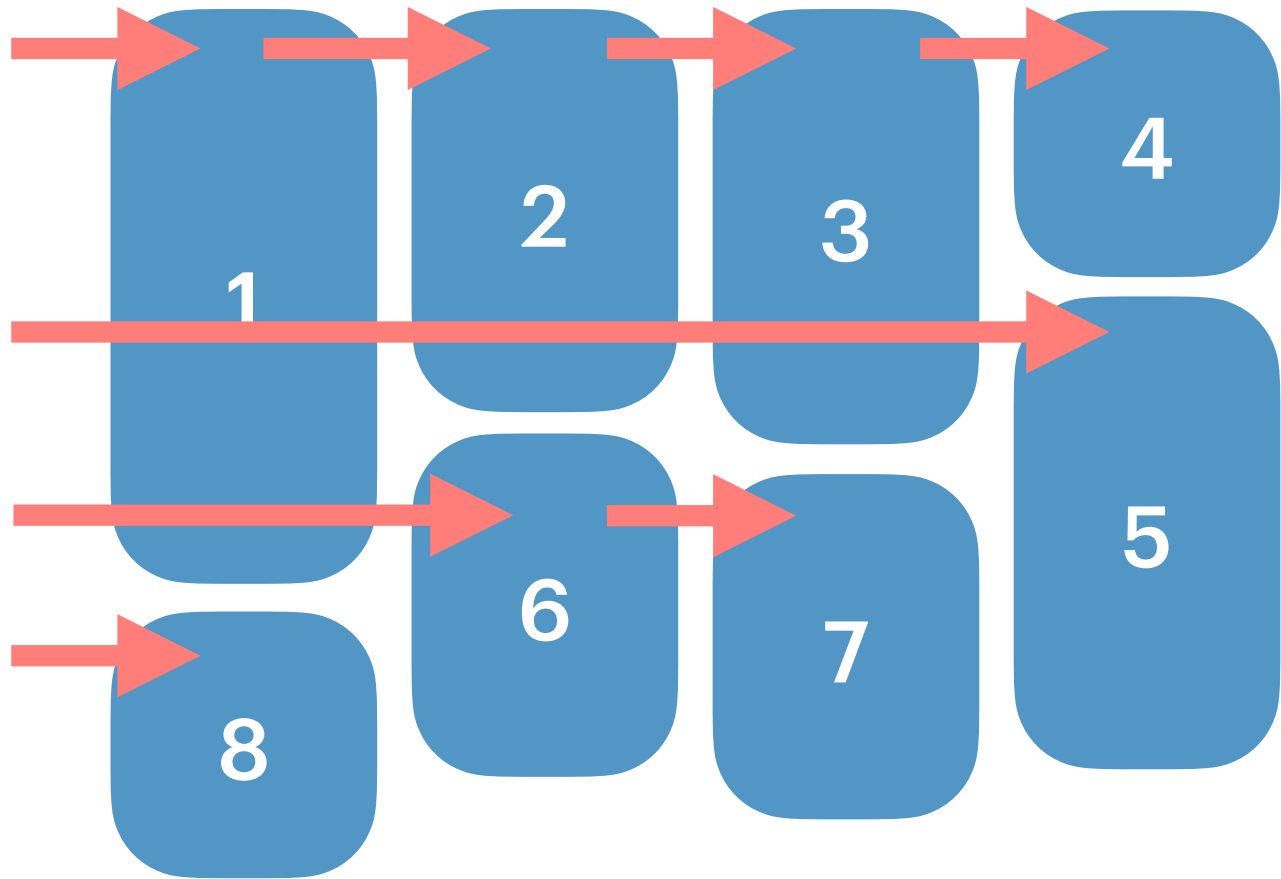


columns

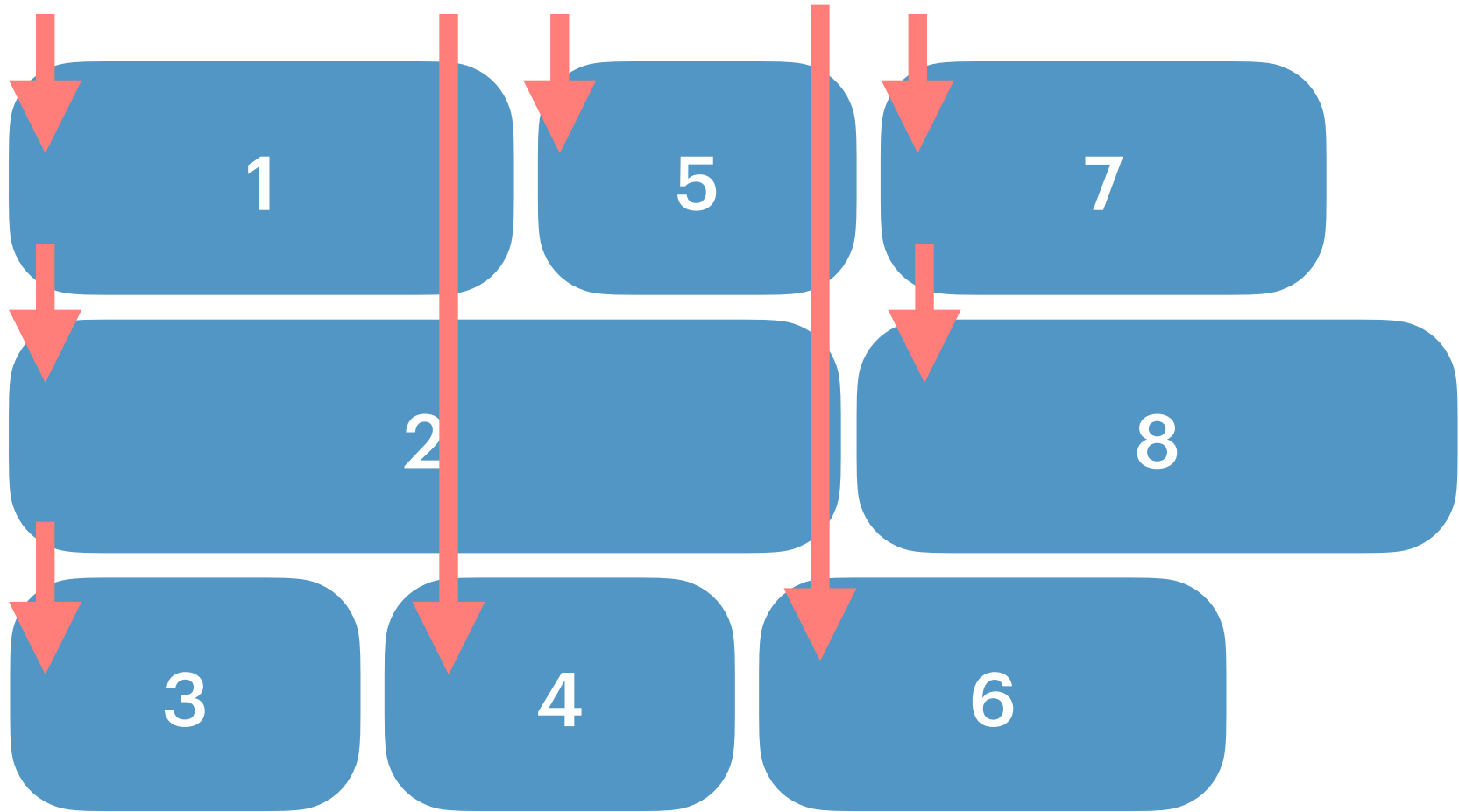


rows

masonry flow: Flow of Layout

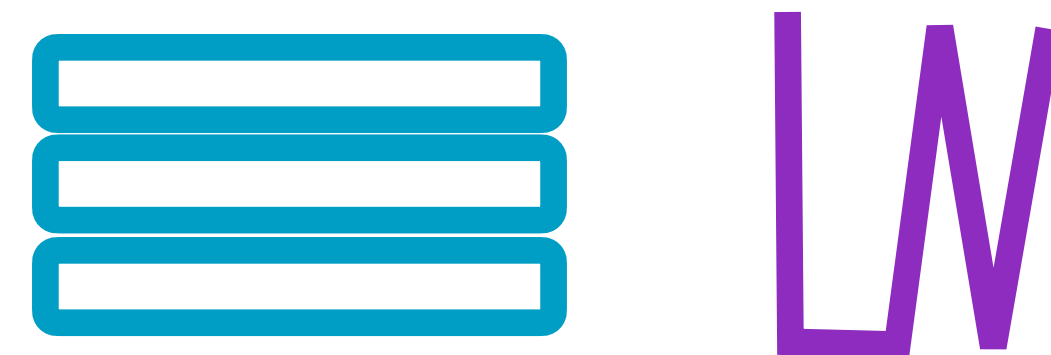
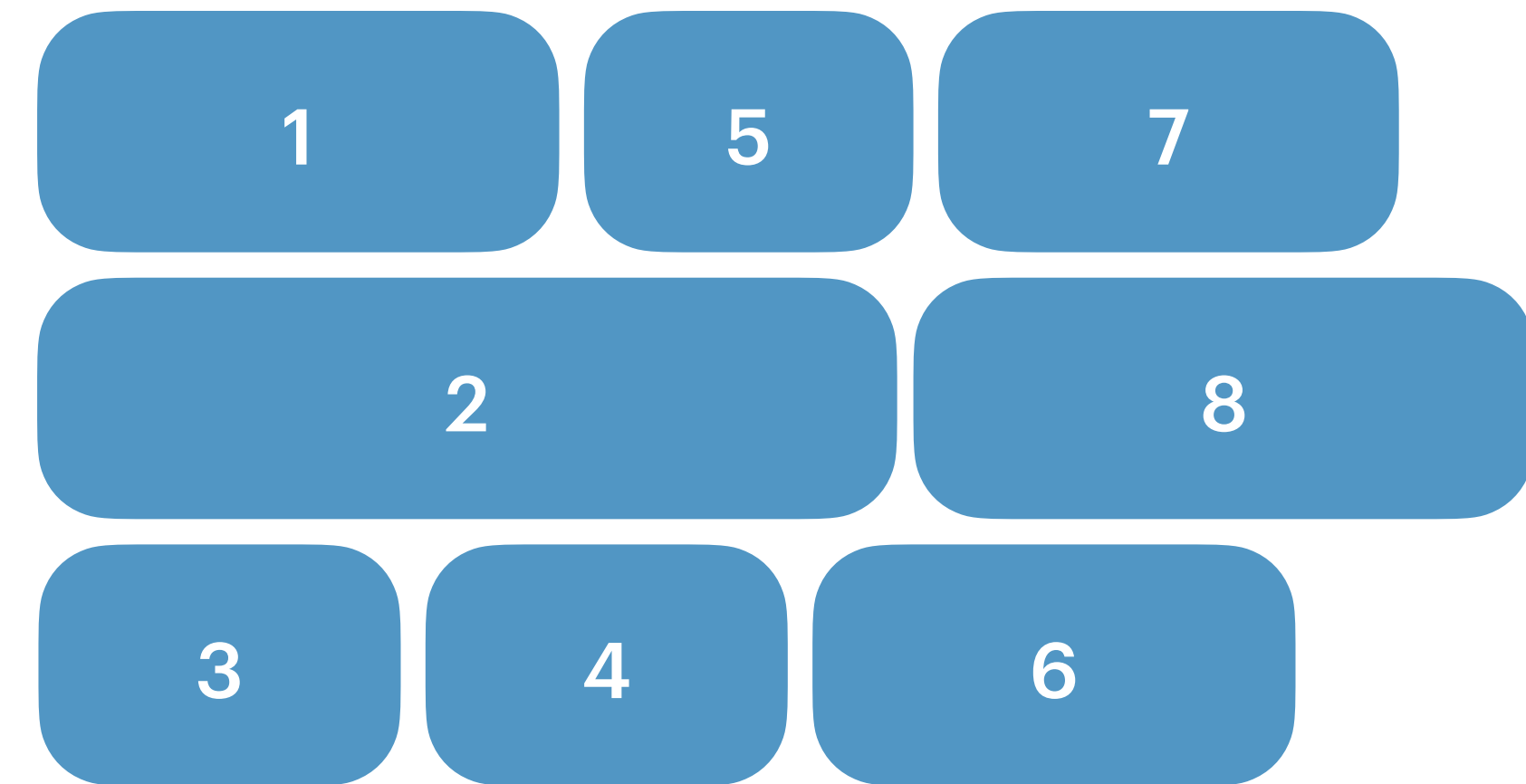
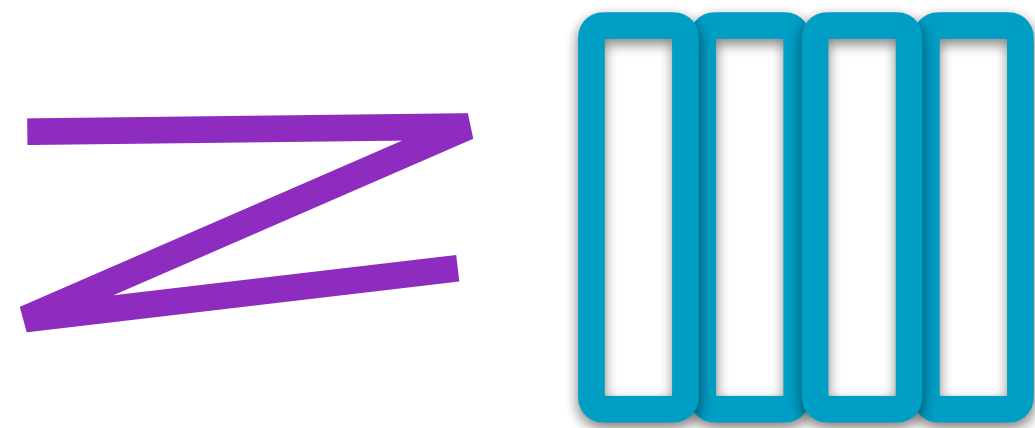
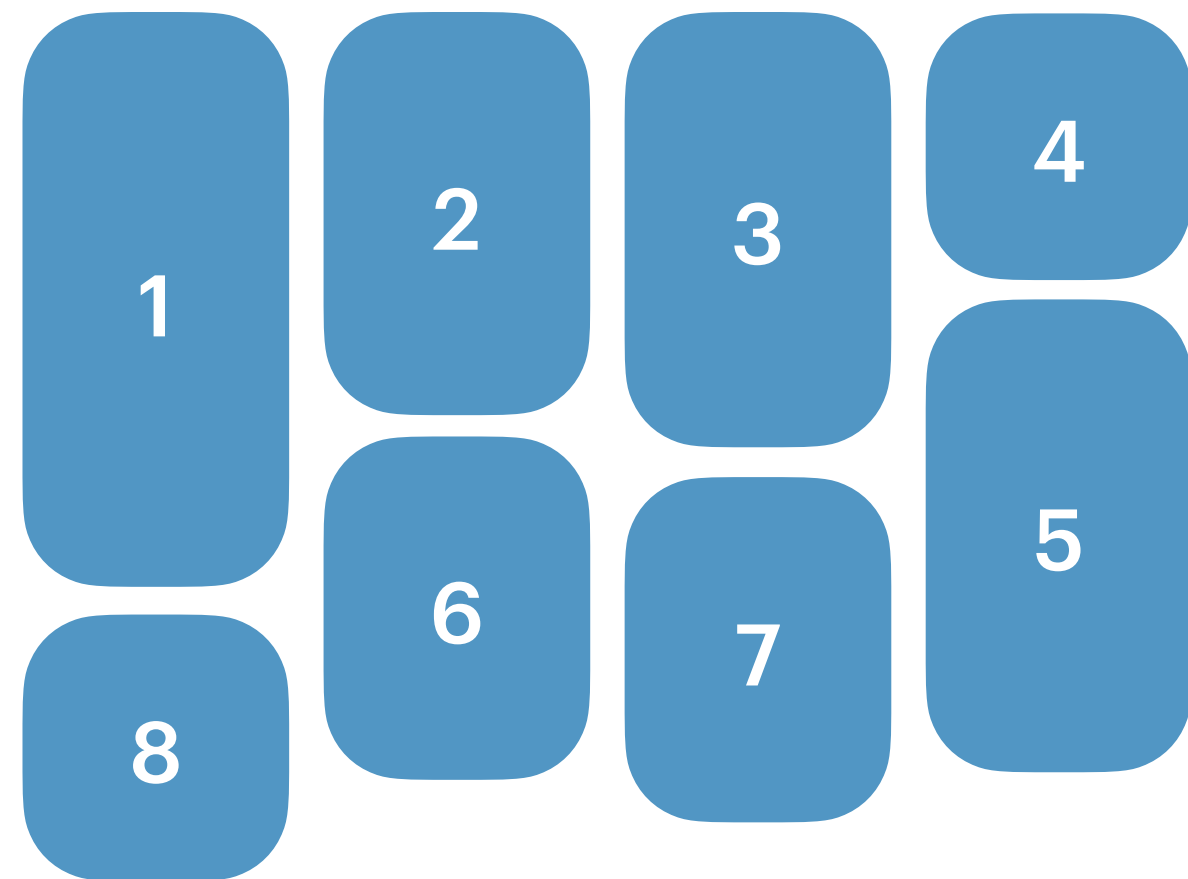


rows



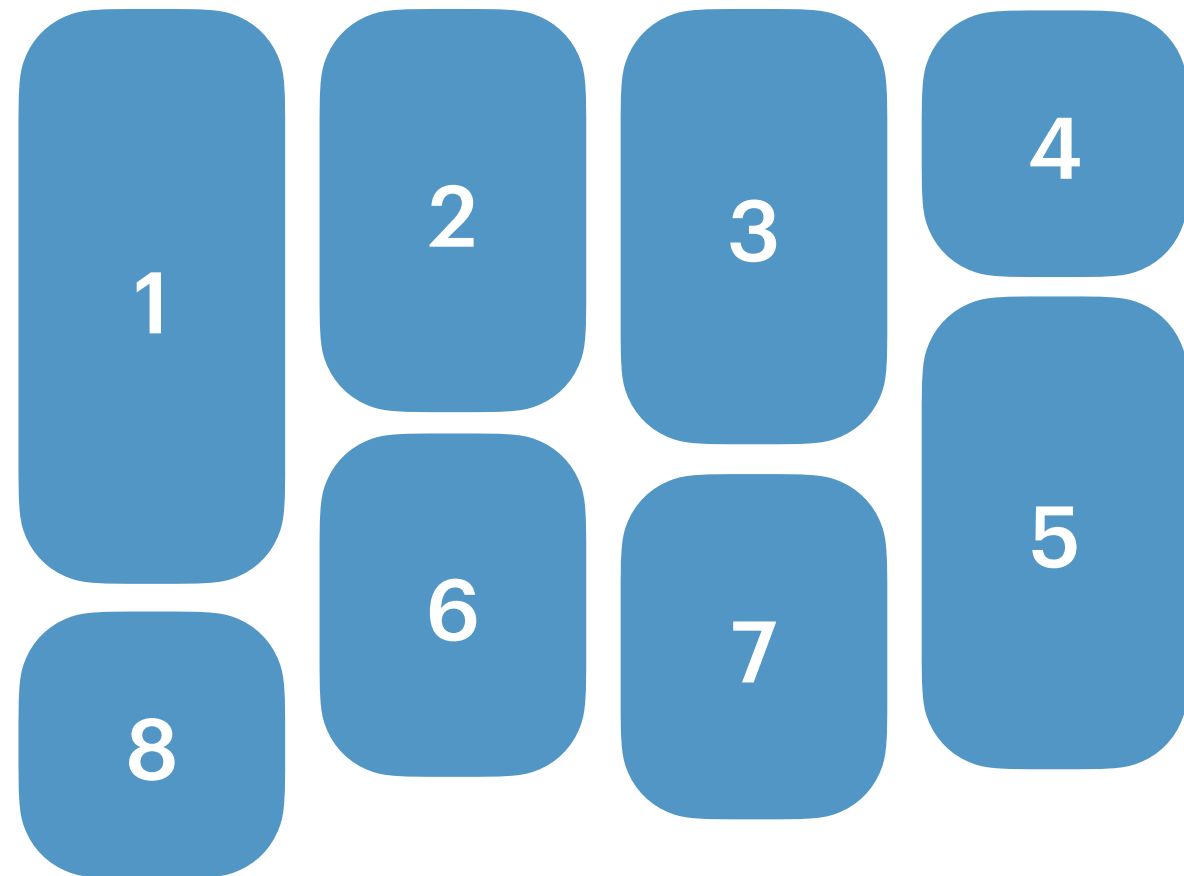
columns

masonry flow: Quiz

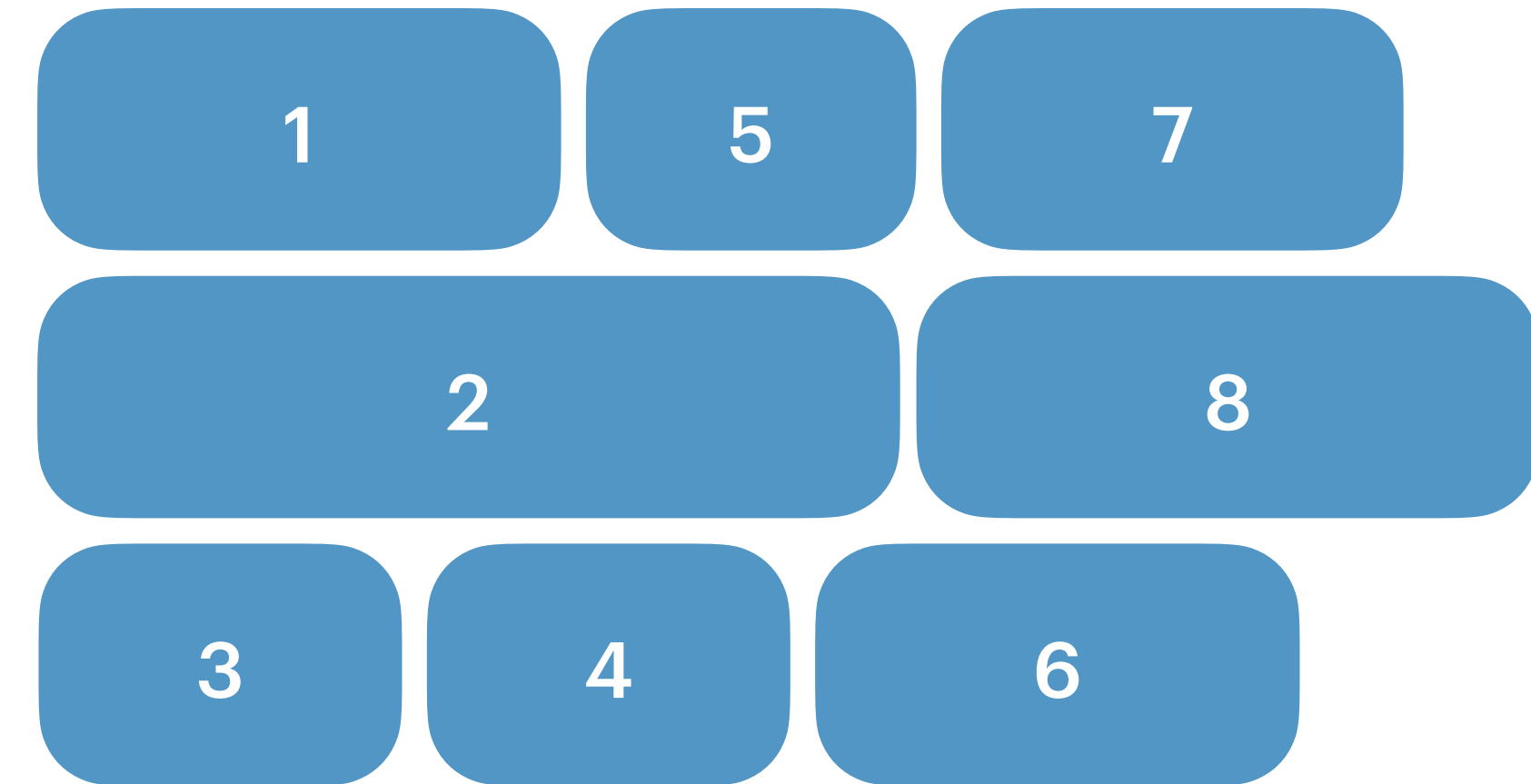


Defining aspect of masonry layout is that shape and flow *do not match*.

masonry flow: Quiz



- (A) item-flow: row
- (B) item-flow: column



- (A) item-flow: column
- (B) item-flow: row

Informal Poll: Is a “waterfall” masonry (A) item-flow: row or (B) item-flow: column?

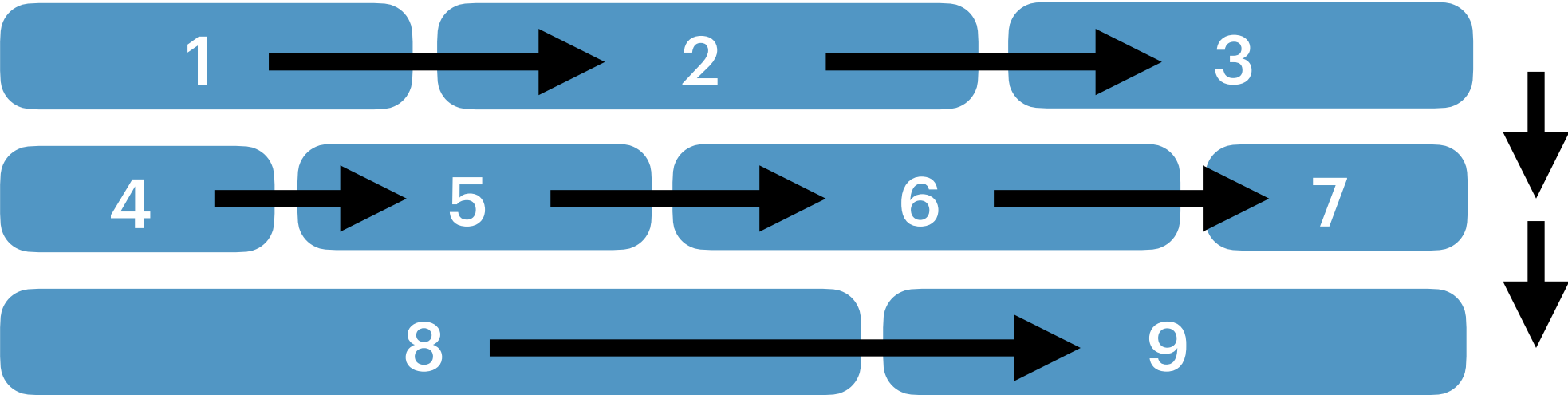
Reversing

column/row-reverse vs wrap-reverse

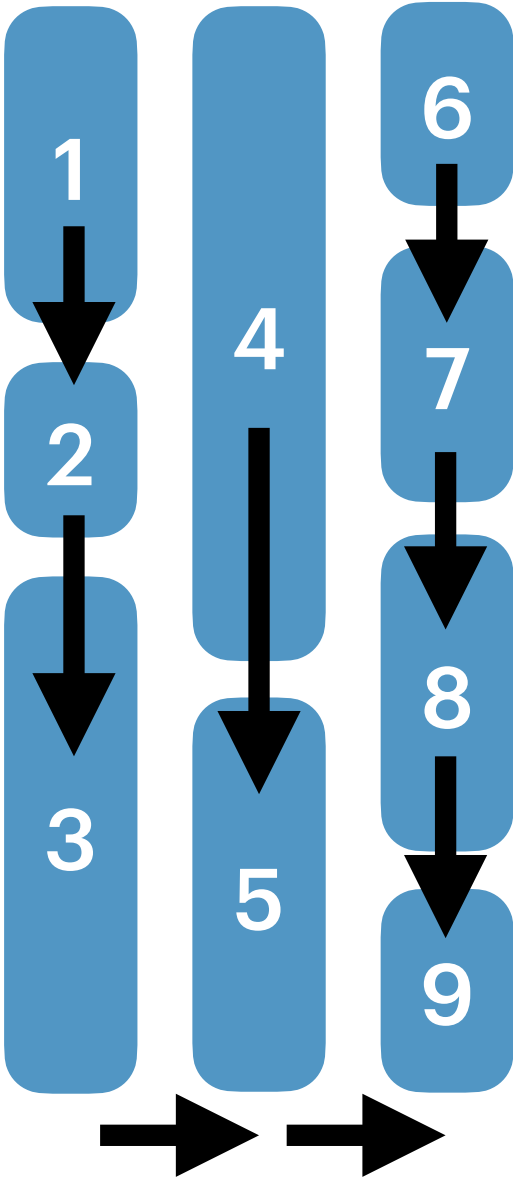
Reversing item-flow

- ▶ flex-flow: <'flex-direction'> || <'flex-wrap'>
- ▶ flex-direction: row | column | row-reverse | column-reverse
- ▶ flex-wrap: nowrap | wrap | wrap-reverse

flex-flow: Default Direction

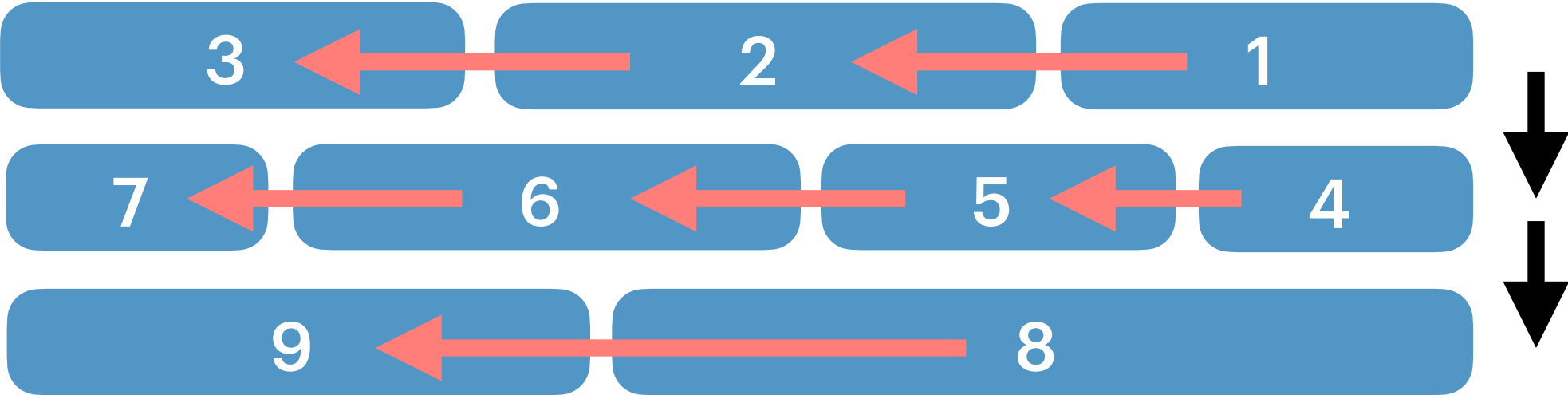


flex-flow: row

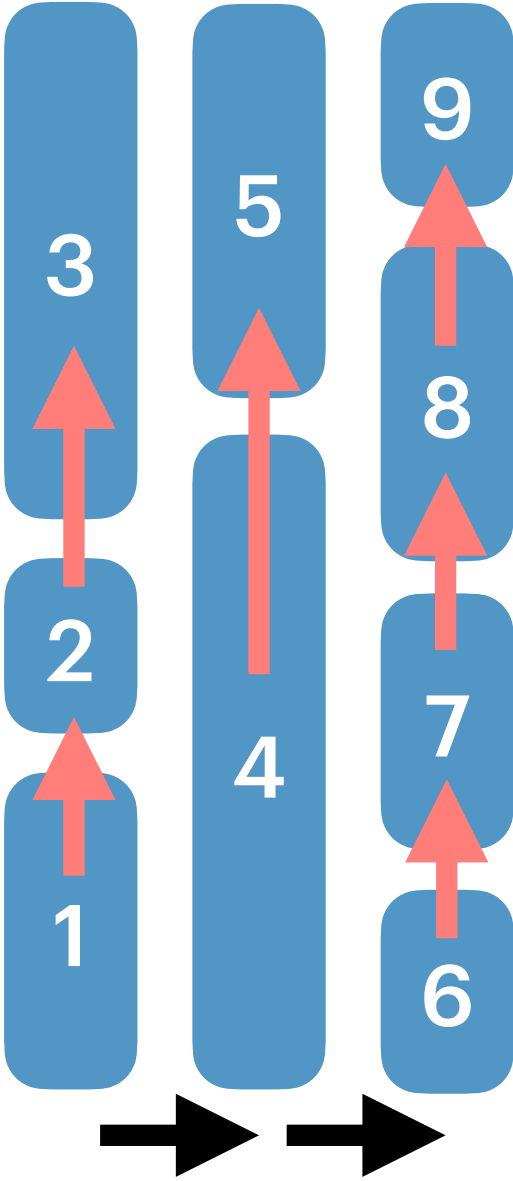


flex-flow: column

flex-flow: Default Direction

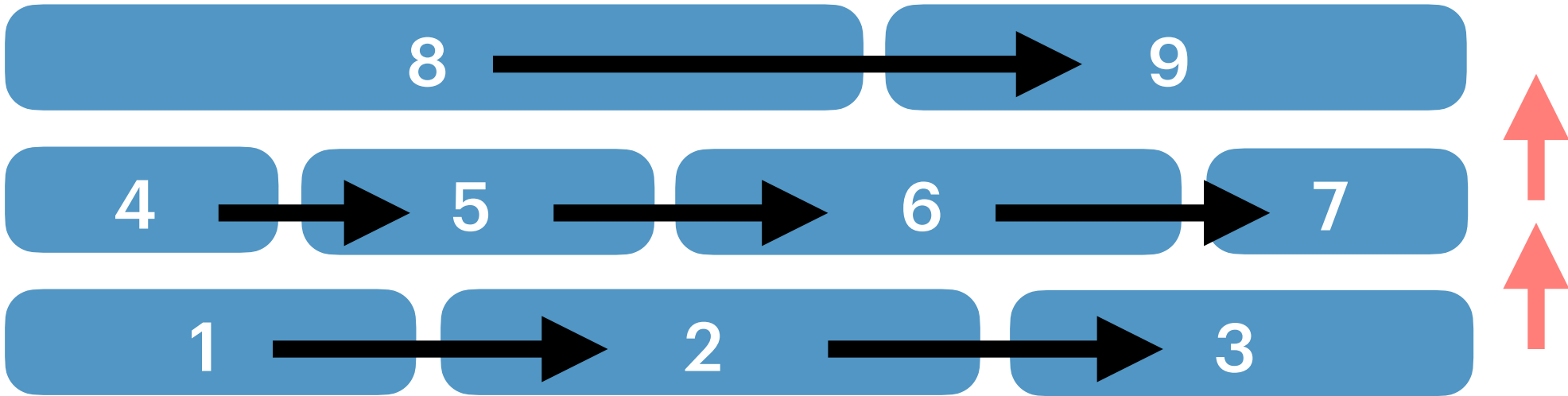


flex-flow: row-reverse

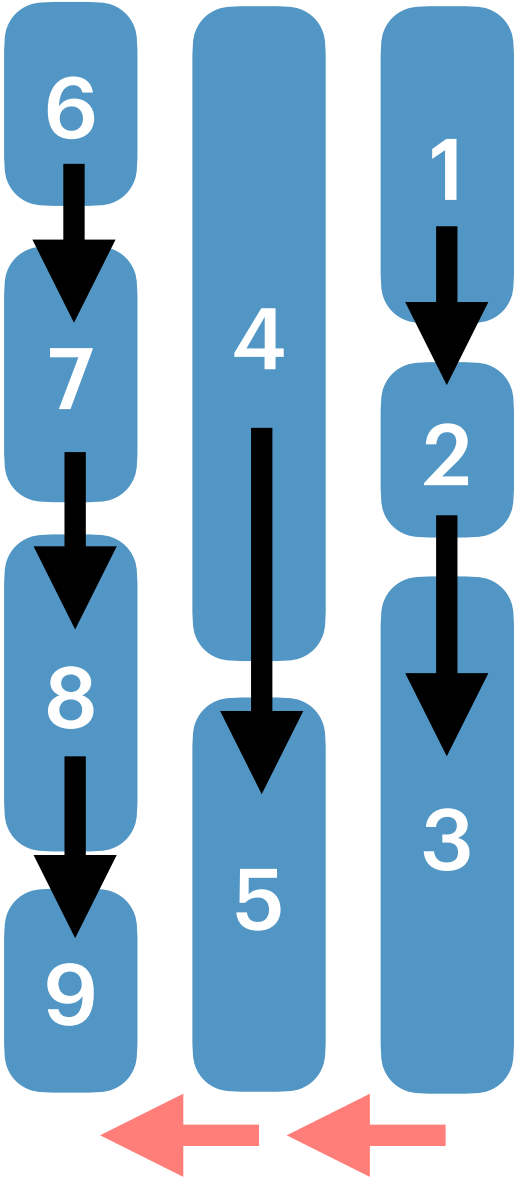


flex-flow: column-reverse

flex-flow: Default Direction

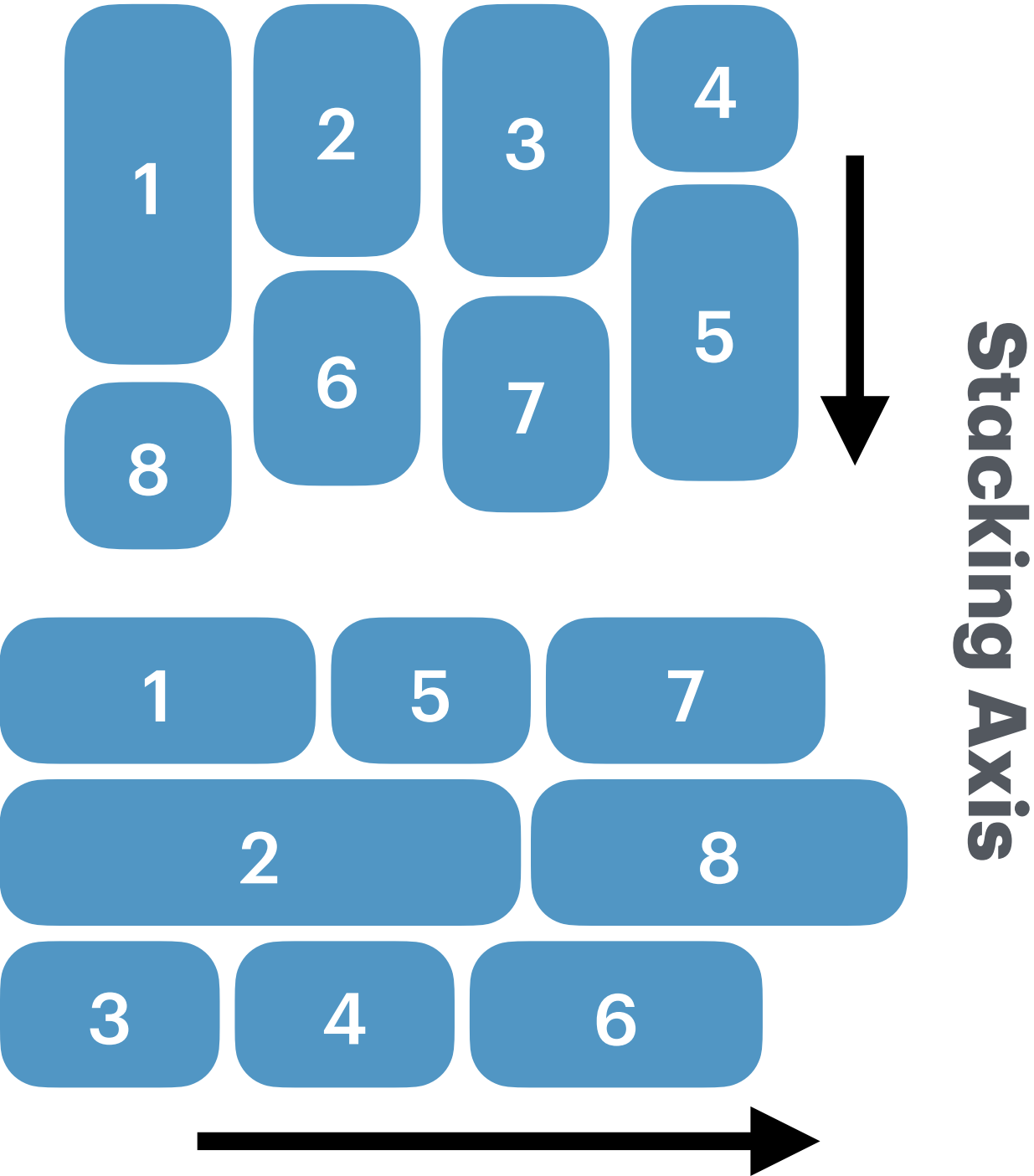
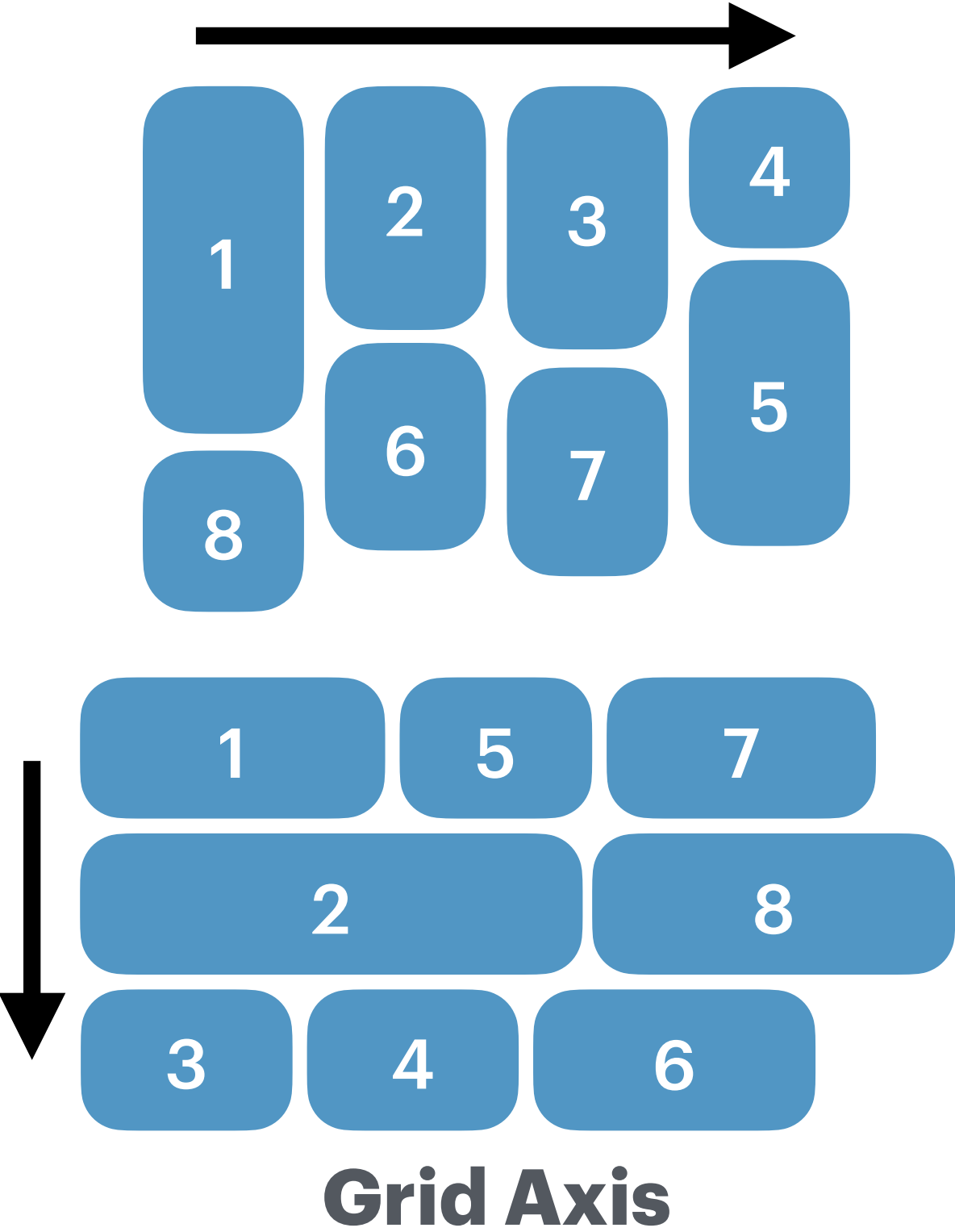


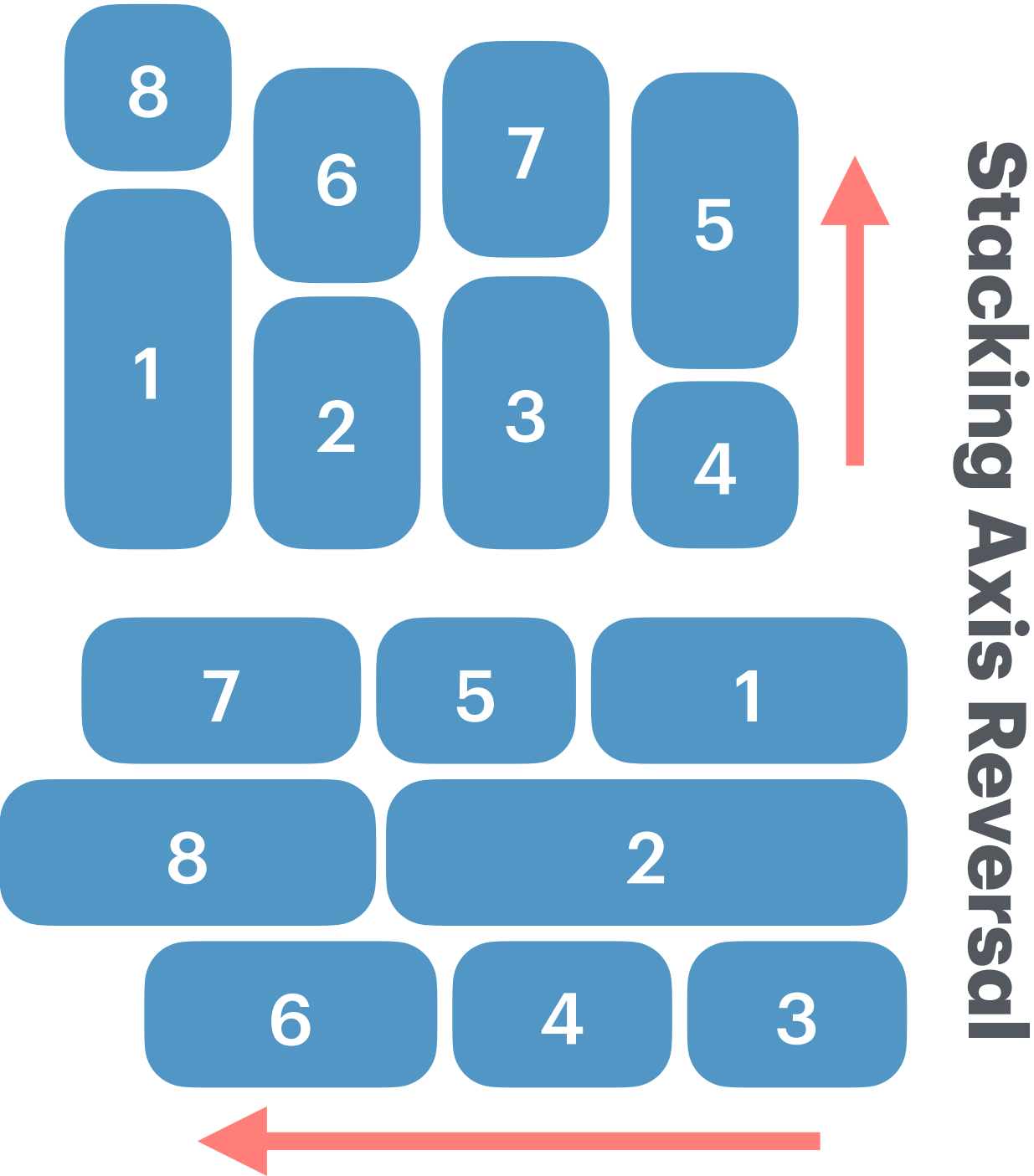
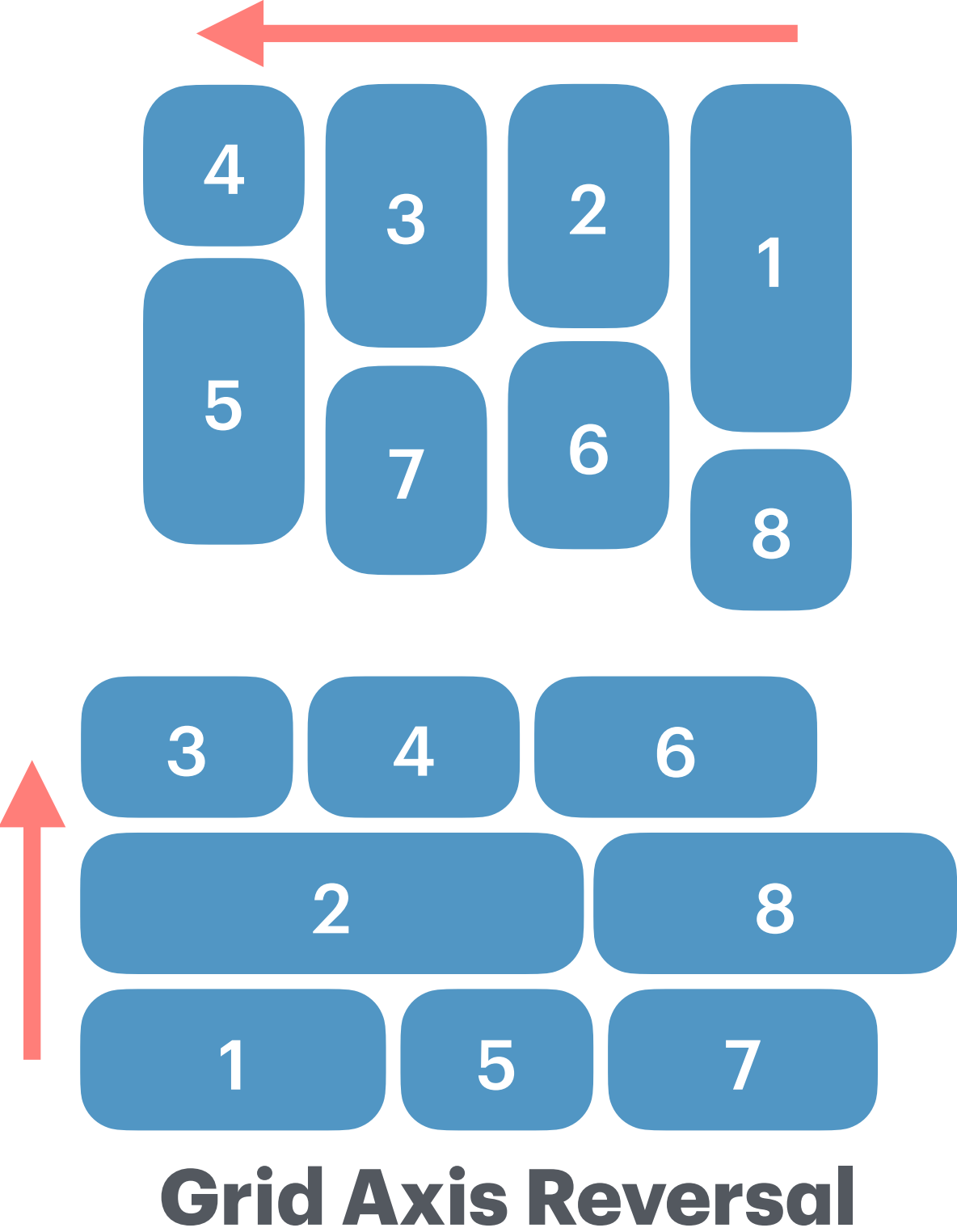
flex-flow: row wrap-reverse



flex-flow: column wrap-reverse

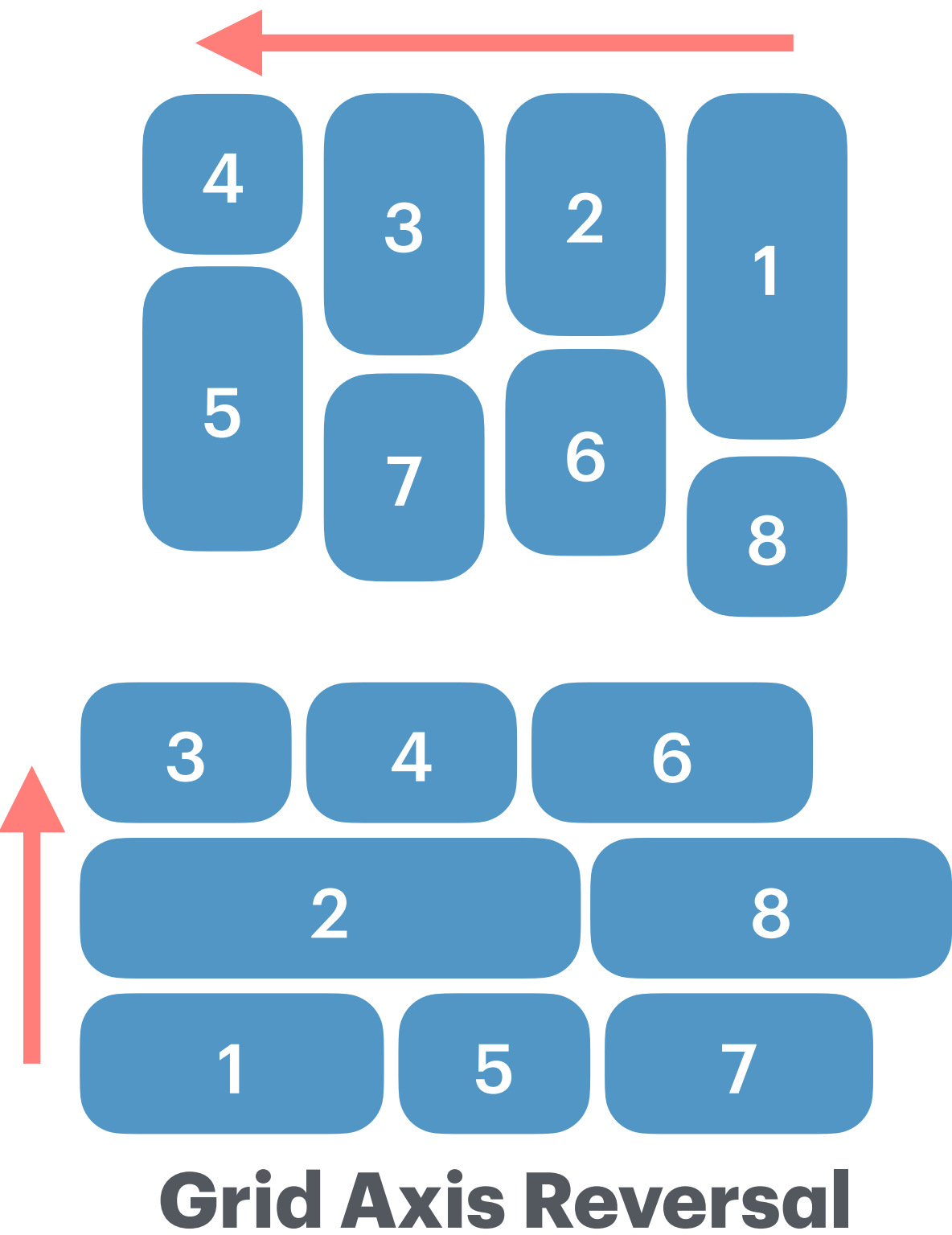
masonry reversing: Quiz



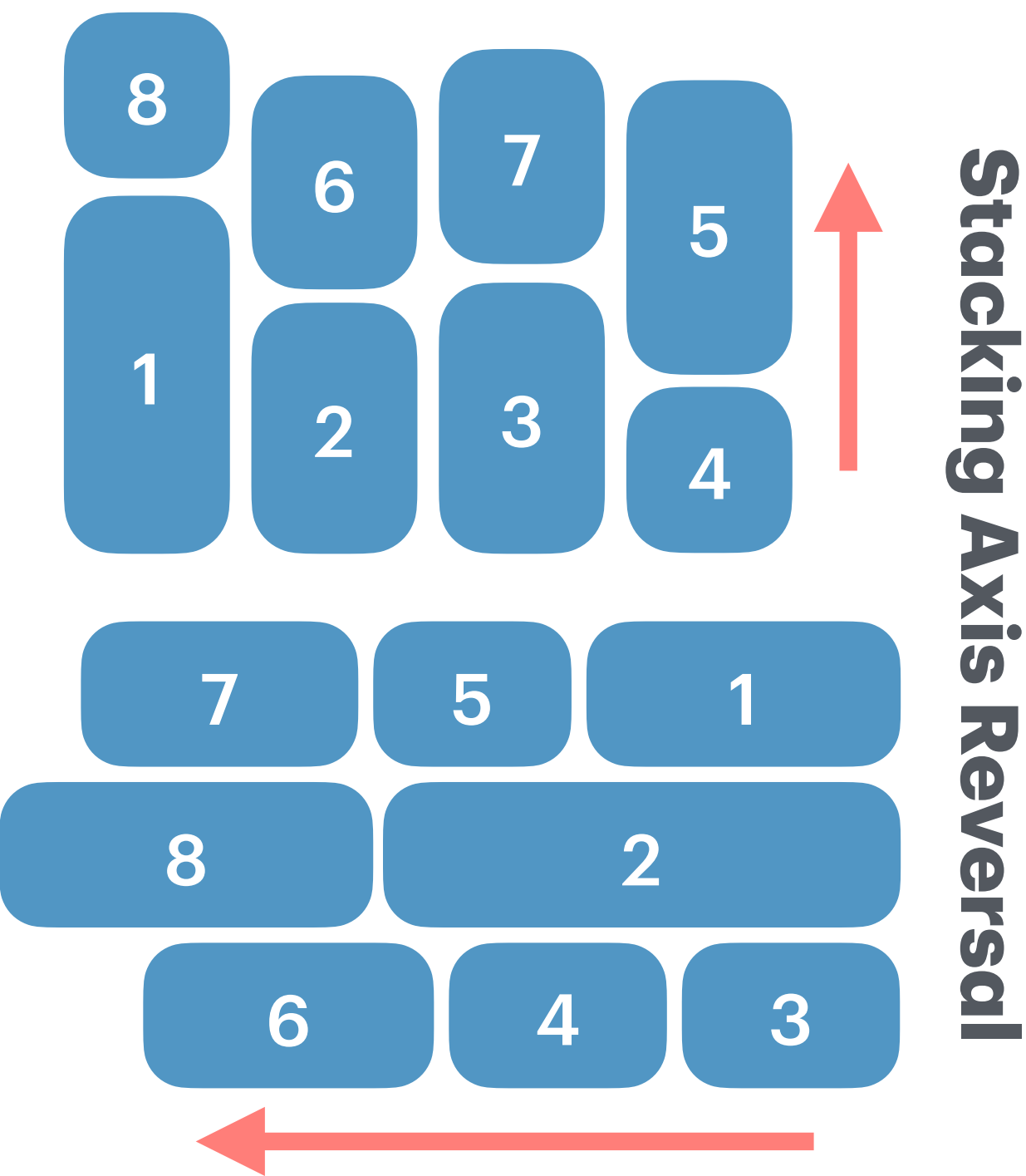


masonry reversing: Quiz

- (A) item-flow: wrap-reverse
- (B) item-flow: row/column-reverse



- (A) item-flow: row/column-reverse
- (B) item-flow: wrap-reverse



Informal Poll: Does **wrap-reverse** reverse (A) the *grid axis* or (B) the *stacking axis*?
Equally: Does **row/column-reverse** reverse (A) the *stacking axis* or (B) the *grid axis*?

Longhand Values

Initial Values & Value Syntax Space

Longhand Value Space: flex-flow

- ▶ flex-flow: <'flex-direction'> || <'flex-wrap'>
- ▶ flex-direction: row | column | row-reverse | column-reverse
- ▶ flex-wrap: nowrap | wrap | wrap-reverse

Longhand Value Space: item-flow

- ▶ item-flow: <'item-direction'> || <'item-wrap'>
- ▶ item-direction: row | column | row-reverse | column-reverse
- ▶ item-wrap: nowrap | wrap | wrap-reverse

Longhand Value Space: Initial Value for row vs column

- ▶ `item-flow`: <'item-direction'> || <'item-wrap'>
- ▶ `item-direction`: **auto** | row | column | row-reverse | column-reverse
 - ▶ **auto** means
 - ▶ **row** in Flex Layout
 - ▶ **row** in Grid Layout
 - ▶ *brick layout* in Masonry if **grid-template-rows** is set and *grid-template-columns* is not
 - ▶ *waterfall layout* in Masonry if **grid-template-columns** is set (or neither/both are set)
 - ▶ Masonry authors will rarely need to set this value, because **auto** will do the right thing.
 - ▶ Should this be **auto** or **normal**, actually?
- ▶ `item-wrap`: nowrap | wrap | wrap-reverse

Longhand Value Space: Initial Value for row vs column

- ▶ flex-flow: <'flex-direction'> || <'flex-wrap'>
- ▶ item-direction: auto? | row | column | row-reverse | column-reverse
- ▶ item-wrap: **auto** | nowrap | wrap | wrap-reverse
 - ▶ **auto** means
 - ▶ **nowrap** in Flex Layout
 - ▶ **wrap** in Grid/Masonry Layout
 - ▶ Should this be **auto** or **normal**, actually?

Property Names

Longhands & Prefixes

Naming item-flow longhands: Precedents

- ▶ flex-flow: <'flex-direction'> || <'flex-wrap'>
- ▶ flex-direction: row | column | row-reverse | column-reverse
- ▶ flex-wrap: nowrap | wrap | wrap-reverse
- ▶ grid-auto-flow: row | column || dense

Naming item-flow longhands: -direction and -wrap matches flex-direction and flex-wrap

- ▶ item-flow: <'flex-direction'> || <'flex-wrap'>
- ▶ item-direction: auto | row | column | row-reverse | column-reverse
- ▶ item-wrap: auto | nowrap | wrap | wrap-reverse

Naming item-flow longhands: -track and -cross focuses on “shape of layout” idea

- ▶ item-flow: <‘flex-direction’> || <‘flex-wrap’>
- ▶ item-track: auto | row | column | row-reverse | column-reverse
- ▶ item-cross: auto | nowrap | wrap | wrap-reverse

Property	Values	Flexbox	Grid
item-direction <i>or</i> item-track	row column row-reverse column-reverse	(existing behavior)	(existing behavior)
item-wrap <i>or</i> item-cross	auto [[nowrap wrap] [normal reverse]] wrap-reverse	auto computes to nowrap	auto computes to wrap; nowrap means autoplacement adds implicit tracks instead of wrapping to the next row
item-pack	normal dense balance	dense means backfilling items to open space earlier in the flow	(existing dense behavior)
		balance opts into balanced line-wrapping	
item-tolerance	normal <length-percentage> infinite	set a point to switch from loose packing to cramming in extra item	adjusts slack used in calculating placement for masonry-style layouts
item-flow	<'item-direction'> <'item-wrap'> <'item-pack'> <'item-slack'>		

Property	Values	Flexbox	Grid
flow-direction <i>or</i> flow-track	row column row-reverse column-reverse	(existing behavior)	(existing behavior)
flow-wrap <i>or</i> flow-cross	auto [[nowrap wrap] [normal reverse]] wrap-reverse	auto computes to nowrap	auto computes to wrap ; nowrap means autoplacement adds implicit tracks instead of wrapping to the next row
flow-pack	normal dense balance	dense means backfilling items to open space earlier in the flow	(existing dense behavior)
		balance opts into balanced line-wrapping	
flow-tolerance	normal <length-percentage> infinite	set a point to switch from loose packing to cramming in extra item	adjusts slack used in calculating placement for masonry-style layouts
flow	<'item-direction'> <'item-wrap'> <'item-pack'> <'item-slack'>		

Property Names: Quiz

Informal Poll

- ▶ Which set of names should we go with for the orientation, wrapping, and reversing controls?
 - ▶ **(A)** Match the flex properties: use **-direction** + **-wrap**.
 - ▶ **(B)** Avoid flow implications: use **-track** + **-cross**.
 - ▶ **(C)** Something else.
- ▶ Do we like **item-flow** to unify these properties or do we want something else?
 - ▶ **(A)** Use **item-flow** and prefix with **item-**.
 - ▶ **(B)** Use **flow** and prefix with **flow-**.
 - ▶ **(C)** Something else.

Note: Full set of properties here is -direction/-track, -wrap/-cross, -tolerance, -pack.

Aliasing vs Shorthanding

How do the new properties relate to existing properties?

Longhands vs Aliases: How do we unify flex-flow and grid-auto-flow?

- ▶ **Option 1: Aliasing**

- ▶ grid-auto-flow, flex-flow, and item-flow all alias each other and affect all layout modes
- ▶ flex-direction and flex-wrap become longhands of grid-auto-flow as well as flex-flow

- ▶ **Option 2: Shorthanding Existing**

- ▶ item-flow shorthands grid-auto-flow and flex-flow, which remain independent
- ▶ grid-auto-flow expands to grid-auto-direction and grid-auto-wrap (and item-pack)
- ▶ item-direction/item-wrap shorthand the corresponding grid- and flex- longhands
- ▶ grid-auto-flow controls grid+masonry layout

- ▶ **Option 3: Shorthanding Expanded**

- ▶ Like Option 2, but we create new independent longhands for masonry.
 - ▶ But this is what we were trying to avoid with item-flow.

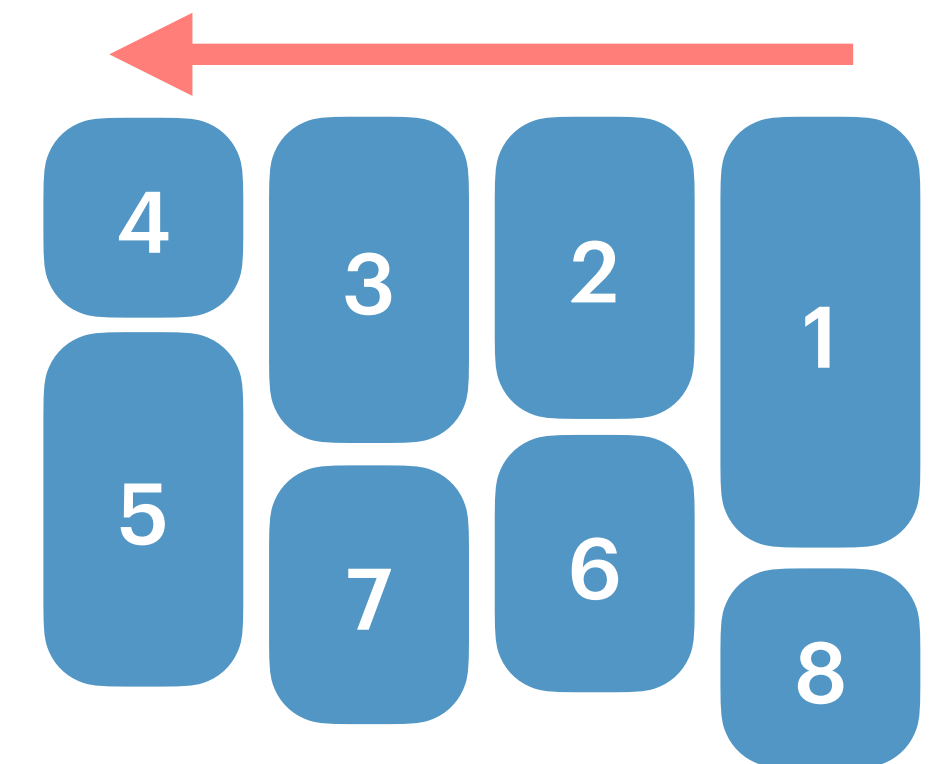
Rewind for Discussion

First: Clarifying Questions?

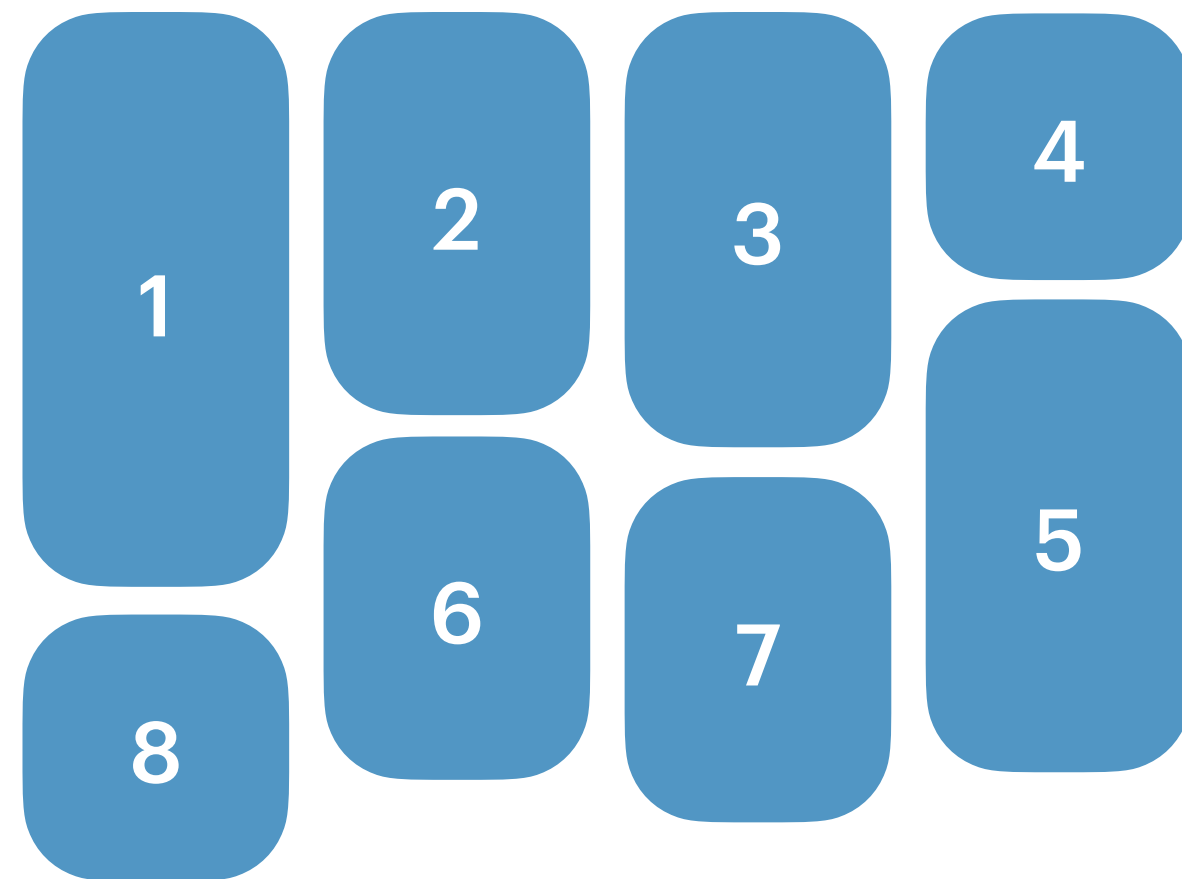
Open For Discussion

item-flow Syntax Questions for Discussion

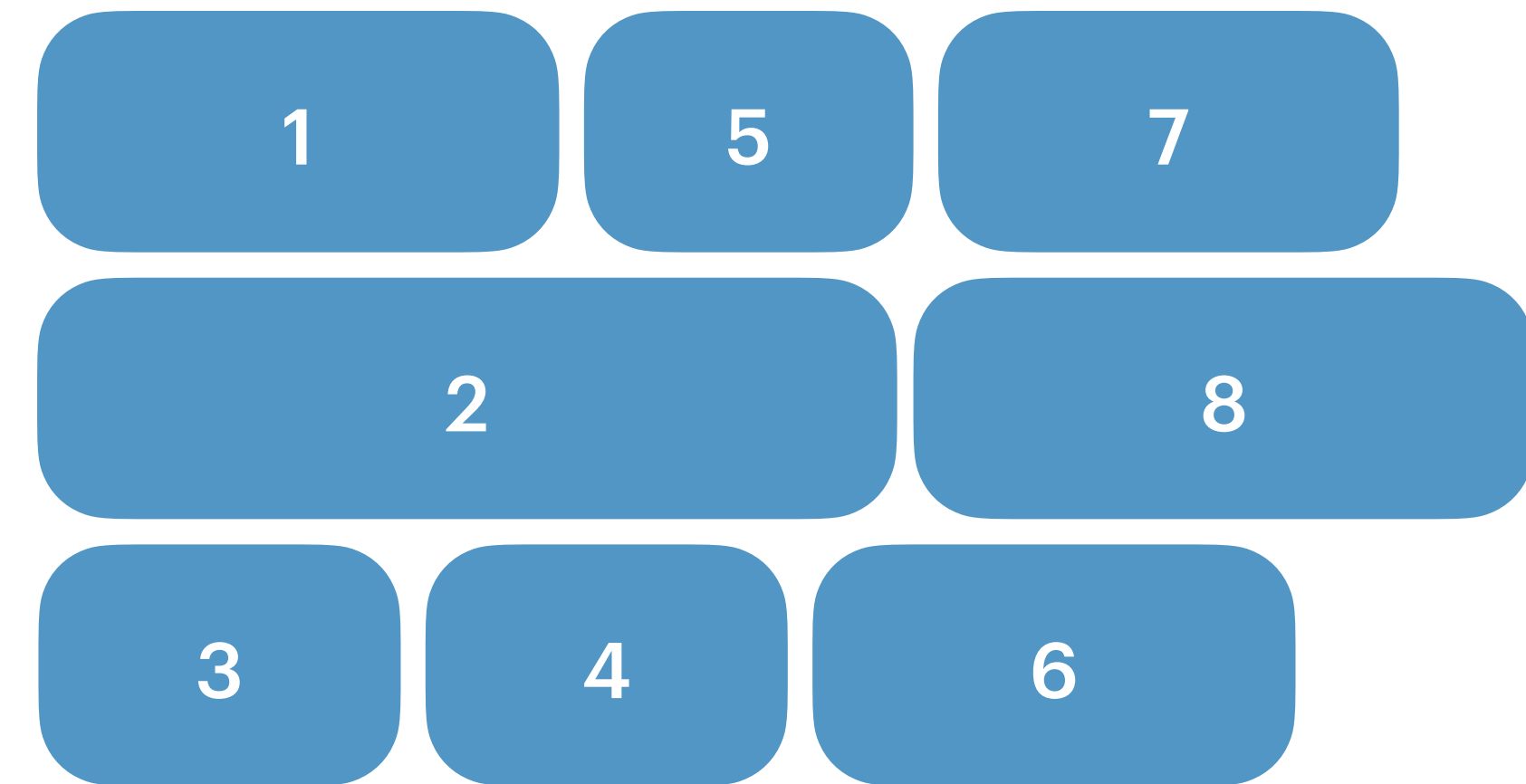
- ▶ Separately:
 - ▶ Is a “waterfall” masonry represented by **row** or **column**?
 - ▶ Does **column-reverse** reverse the *grid axis* or the *stacking axis*?
 - ▶ Which set of property names do we want? **-direction/-wrap** vs **-track/-cross** vs ???
 - ▶ How does **grid-auto-flow** relate to masonry and flex layout?
- ▶ Together: items placed in reverse-inline direction forming columns are represented by:
 - ▶ A. Flow-of-layout: **item-direction: row-reverse**;
 - ▶ B. Shape of layout, new names: **item-track: column; item-cross: reverse**;
 - ▶ C. Shape of layout, old names: **item-direction: column-reverse**;
 - ▶ D. Something else?
- ▶ Do we like the proposed initial value behavior for **row** vs **column** behavior in masonry?
Do we prefer calling it **auto** or **normal**?
- ▶ Do we prefer **auto** or **normal** for the automatic **wrap** vs **nowrap** in grid vs flex?



masonry flow: Quiz



- (A) item-flow: row
- (B) item-flow: column

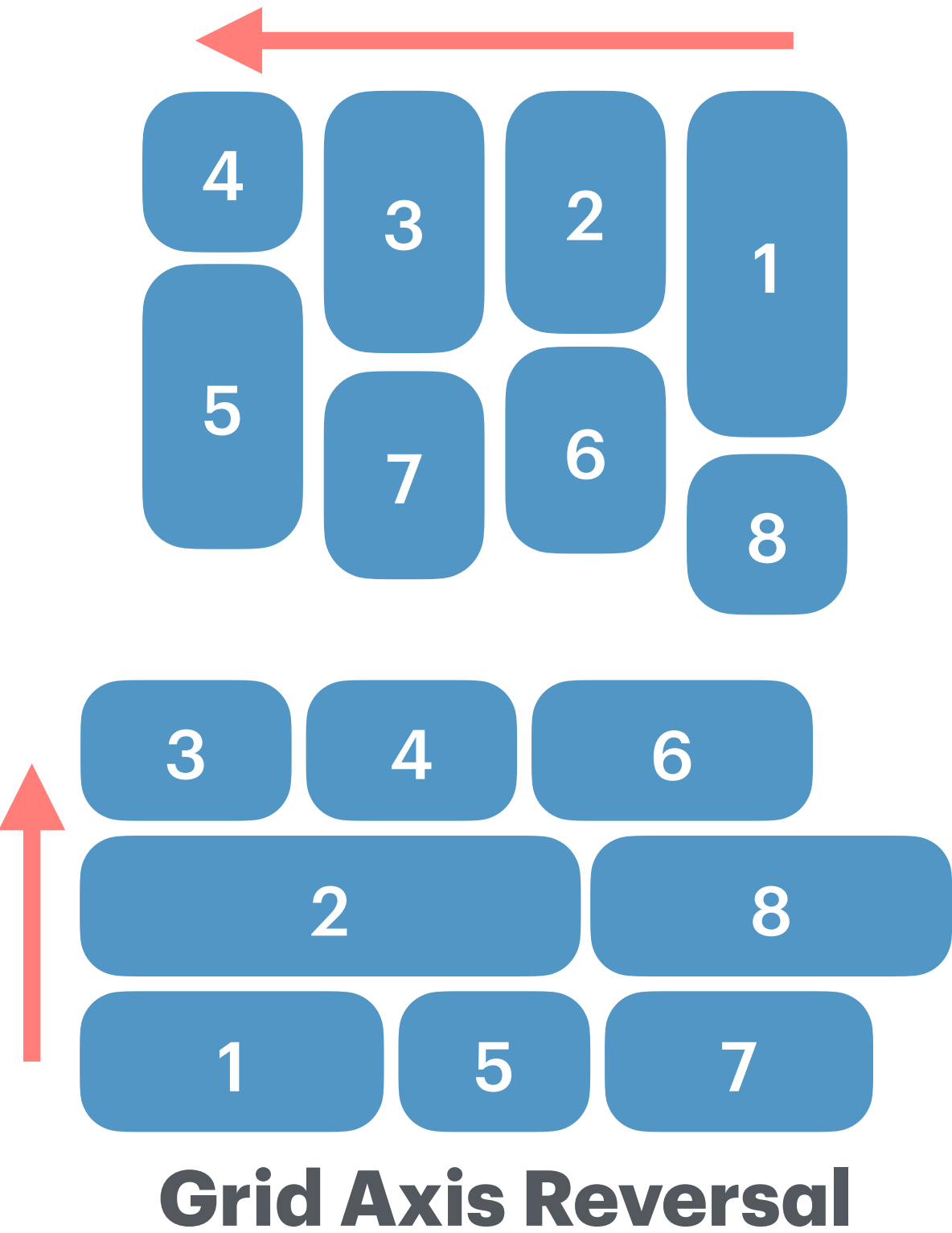


- (A) item-flow: column
- (B) item-flow: row

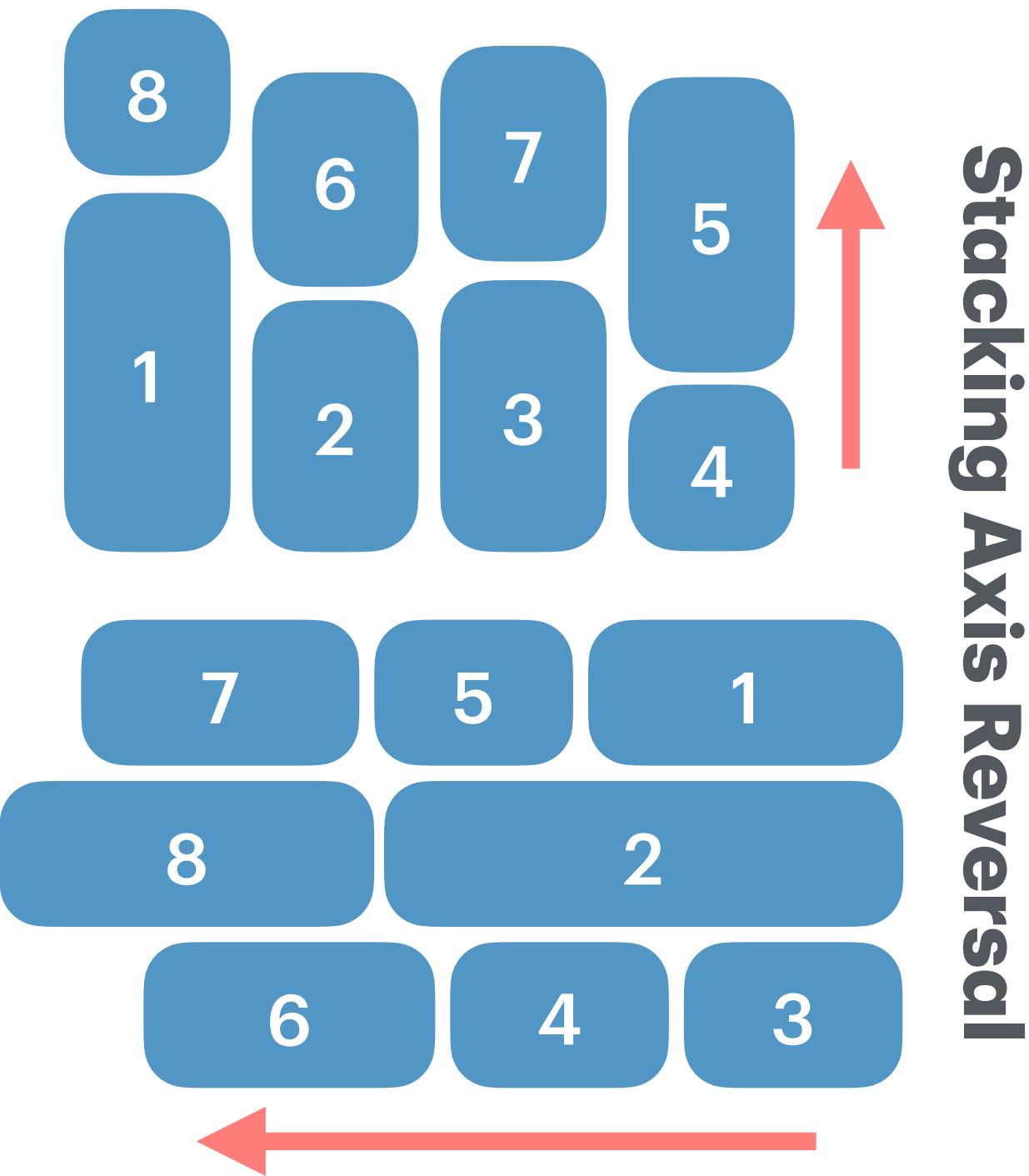
Is a “waterfall” masonry (A) item-flow: row or (B) item-flow: column?

masonry reversing: Quiz

- (A) item-flow: wrap-reverse
- (B) item-flow: row/column-reverse



- (A) item-flow: row/column-reverse
- (B) item-flow: wrap-reverse



Informal Poll: Does **wrap-reverse** reverse (A) the *grid axis* or (B) the *stacking axis*?
Equally: Does **row/column-reverse** reverse (A) the *stacking axis* or (B) the *grid axis*?

Property Names: Quiz

- ▶ Which set of names should we go with for the orientation, wrapping, and reversing controls?
 - ▶ **(A)** Match the flex properties: use **-direction** + **-wrap**.
 - ▶ **(B)** Emphasize shape-of-layout: use **-track** + **-cross**.
 - ▶ **(C)** Something else.
- ▶ Do we like **item-flow** to unify these properties or do we want something else?
 - ▶ **(A)** Use **item-flow** and prefix with **item-**.
 - ▶ **(B)** Use **flow** and prefix with **flow-**.
 - ▶ **(C)** Something else.

Note: Full set of properties here is -direction/-track, -wrap/-cross, -tolerance, -pack.

display: ???

What to call this new display mode?

display: grid + something: Ideas So Far

- ▶ Combinatorial questions to Consider:
 - ▶ **Which keyword to combine with grid?**
Ex: stack / pack / compact / single-axis / semi / collapse / masonry / staggered / other?
 - ▶ **Hyphens or spaces?**
Ex: grid-compact vs grid compact?
 - ▶ **Add -ed?**
Ex: grid-stack / grid stack vs grid-stacked / grid stacked?
 - ▶ **Is grid first or last or reorderable (spaces only)?**
Ex. packed-grid vs grid-packed vs grid packed/packed grid?
- ▶ Options from the issue that had at least some traction:
packed-grid / semi-grid / collapsed-grid / staggered-grid / grid-stack / masonry-grid