Flex Box

- **Floats**
    - let us horizontally position block elements
    - originally developed to implement Magazin-style layouts
    - floating text around images
    - creating layouts was more of a side-effect, e.g. "hacked" layouts
    - no holistic approach to design a whole layout
    - not possible to vertically align items

ALIGNMENT

DIRECTION

ORDER

SIZE

Flex Box

- **Flexboxes**
    - contain of two types: flexitems and flex containers

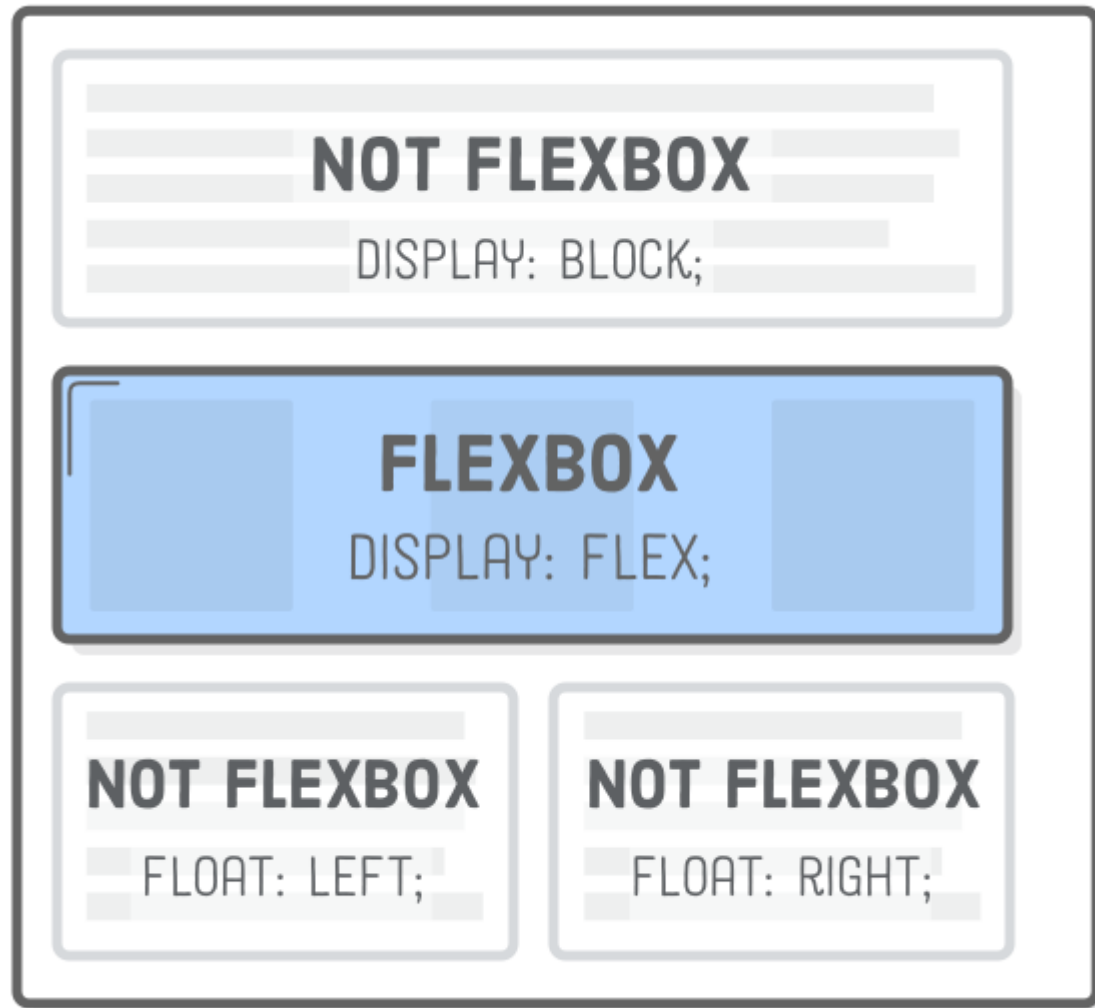"FLEX CONTAINER"

"FLEX ITEMS"

Flex Box

- **Flexitems**
    - child of a flex container
    - main purpose: let container know the number of items to arrange

- **Flexcontainer**
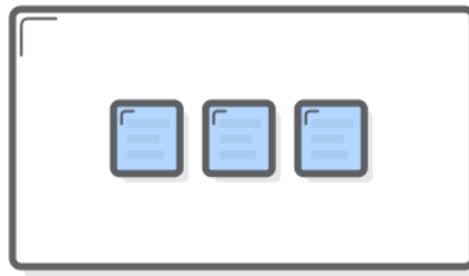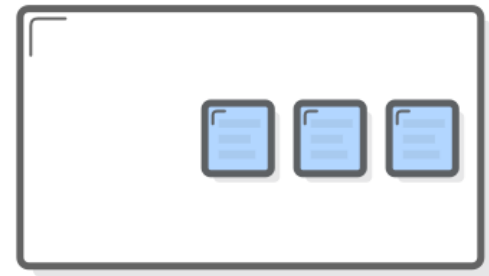   - determine the layout of the flex items

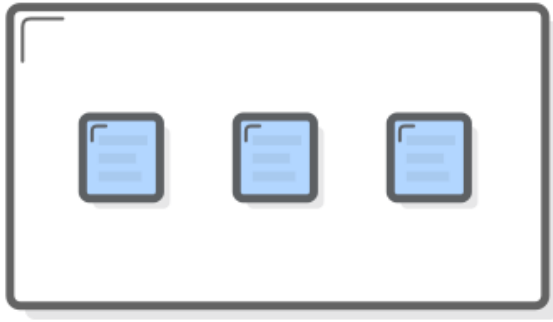# Flex Box

Vertical Alignment of Flex Items

FLEX-START   CENTER   FLEX-END

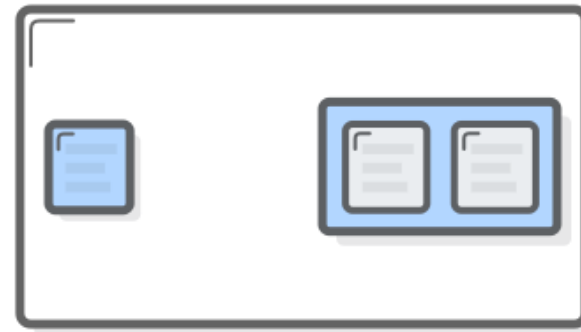# Vertical Alignment of Flex Items

SPACE-AROUND

SPACE-BETWEEN

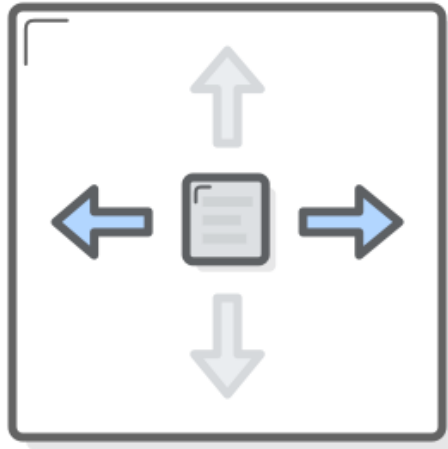# Vertical Alignment of Flex Items

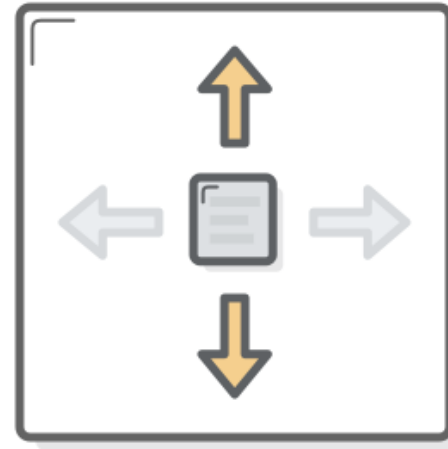**NO GROUPING**

(3 FLEX ITEMS)

GROUPED ITEMS

(2 FLEX ITEMS)

Horizontal Alignment of Flex Items
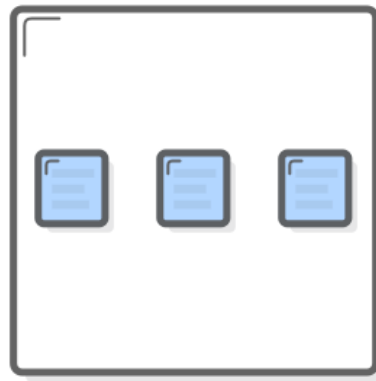

JUSTIFY-CONTENT   ALIGN-ITEMS
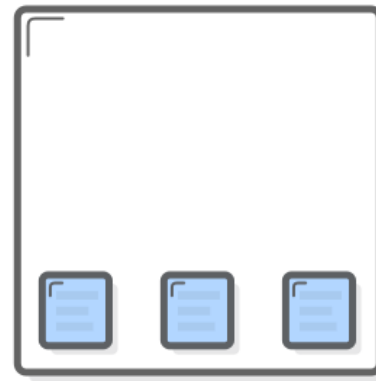
Horizontal Alignment of Flex Items
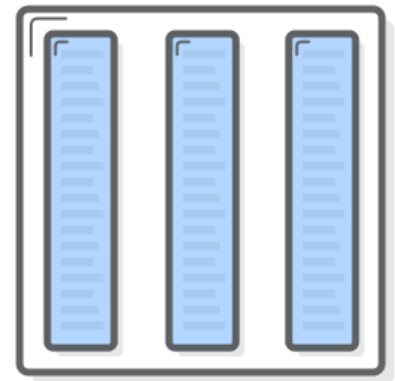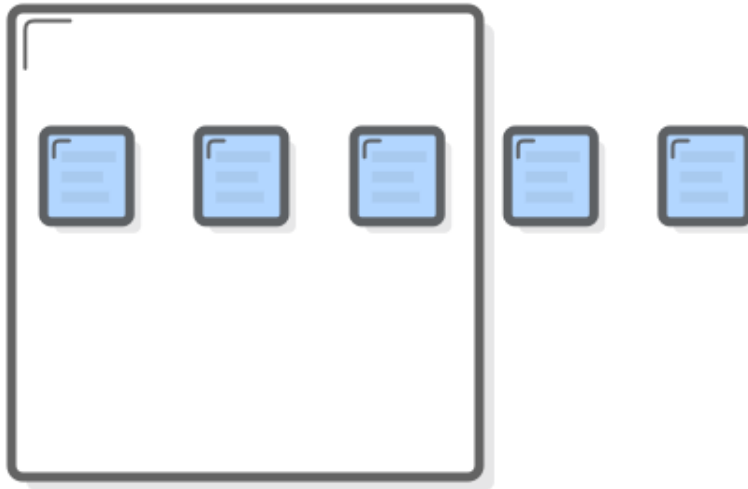

FLEX-START   CENTER   FLEX-END   STRETCH

Wrapping Flex Items

NO WRAPPING

FLEX-WRAP: NOWRAP;

WITH WRAPPING

FLEX-WRAP: WRAP;
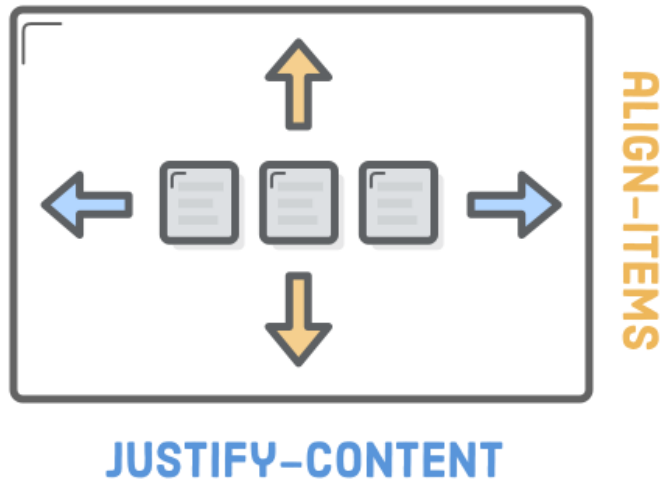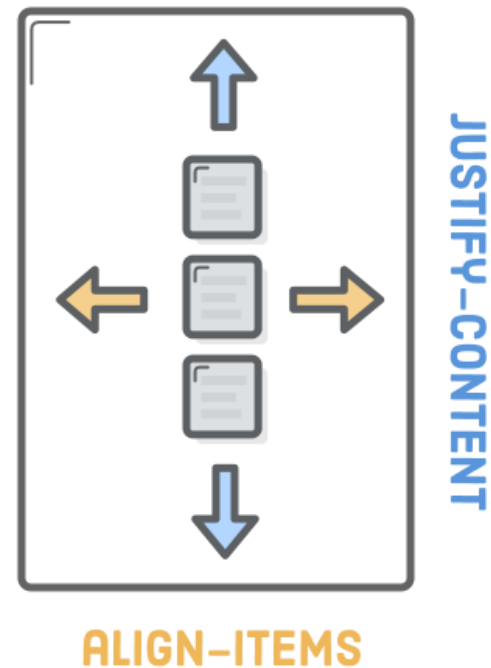
Flex Container Direction

ROW

FLEX-DIRECTION: ROW;

COLUMN

FLEX-DIRECTION: COLUMN;

Alignment Considerations

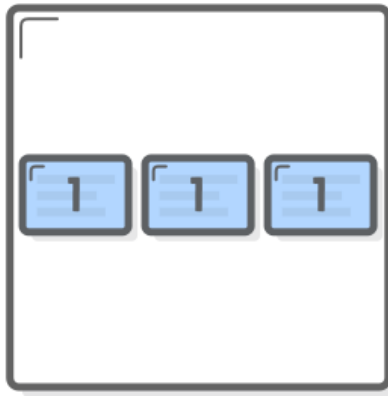# Alignment Considerations

Alignment works vertically, too

- center
- flex-start   (top)
- flex-end   (bottom)
- stretch
- baseline

Flexible Items

-*flex* property defines the width of individual items in a flex container
- width is flexible, is defined as a **weight**
- flex = 2, grows twice as fast as items with flex = 1 (default value)

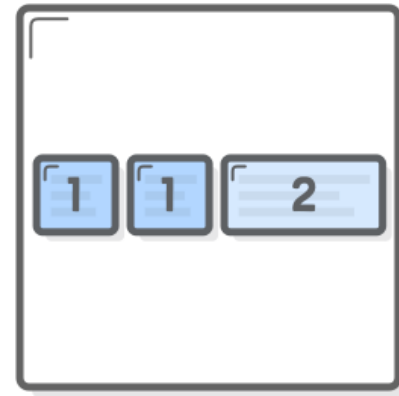**NO FLEX**   **EQUAL FLEX**   **UNEQUAL FLEX**

Flexible Items

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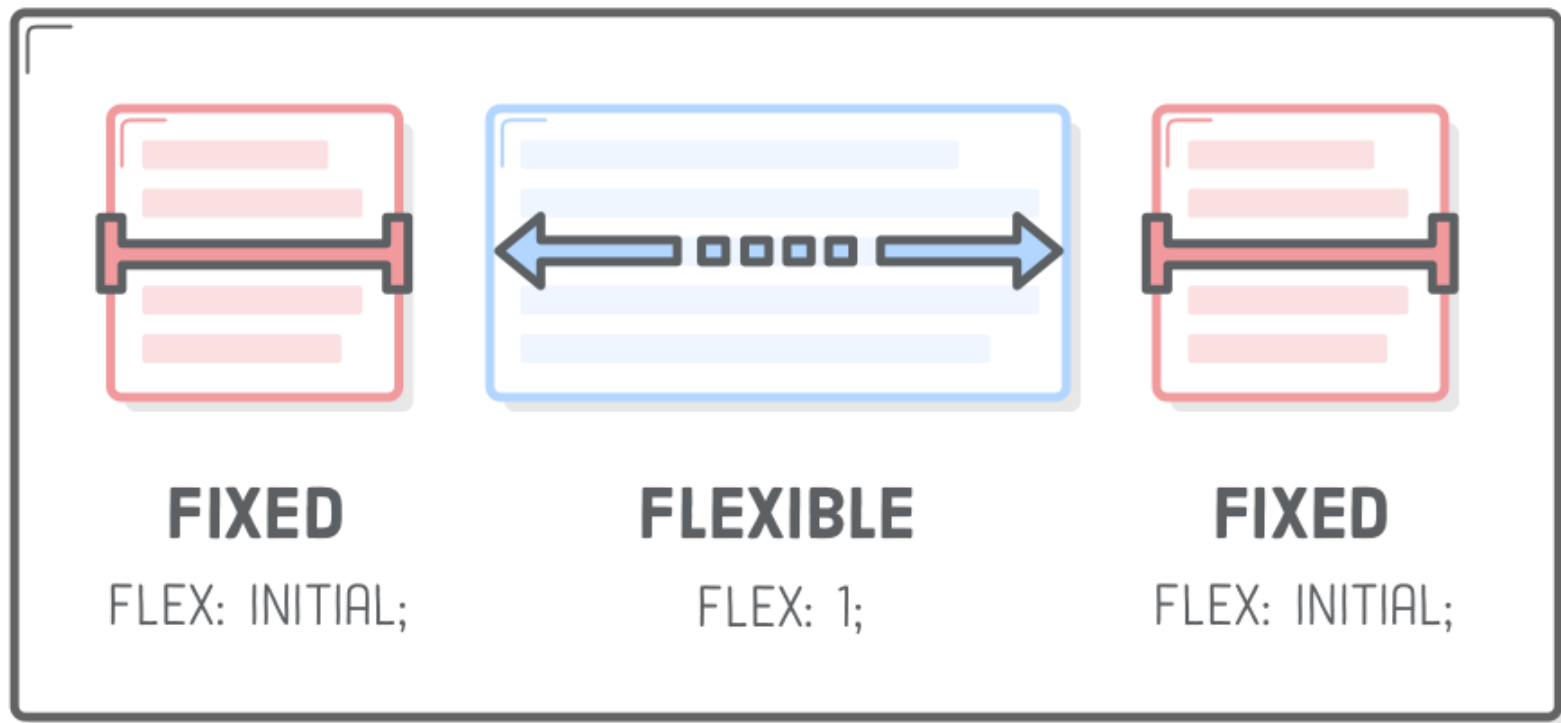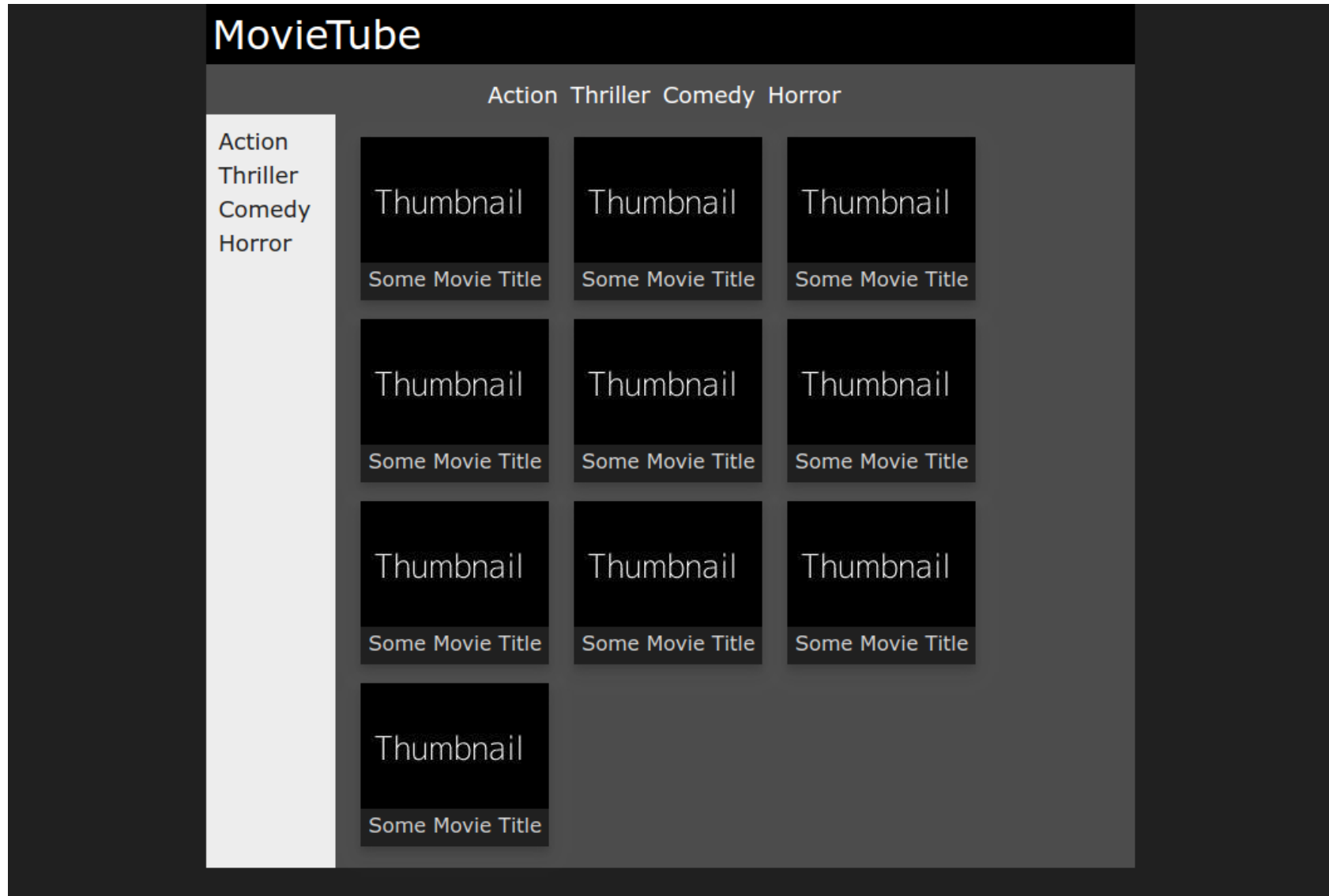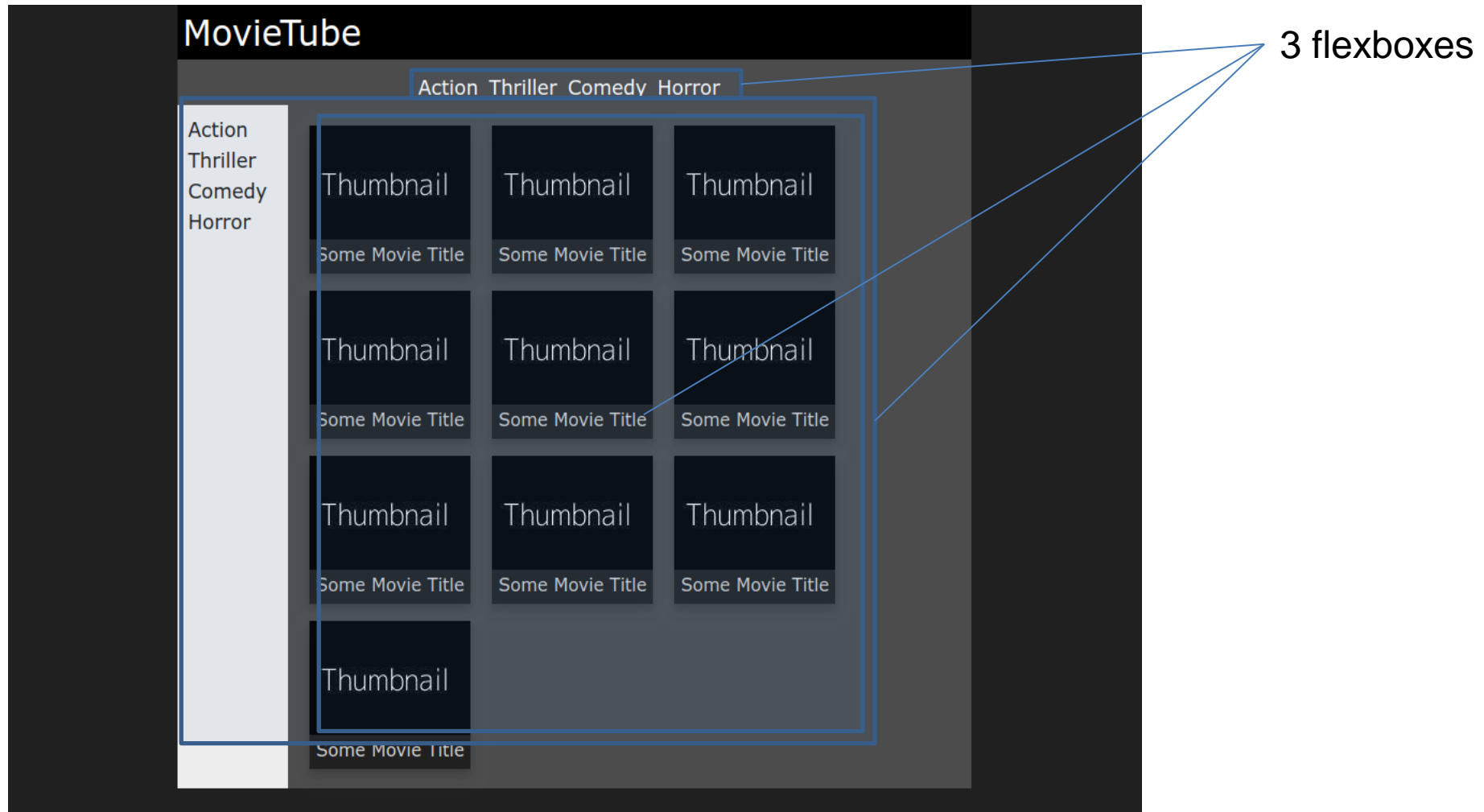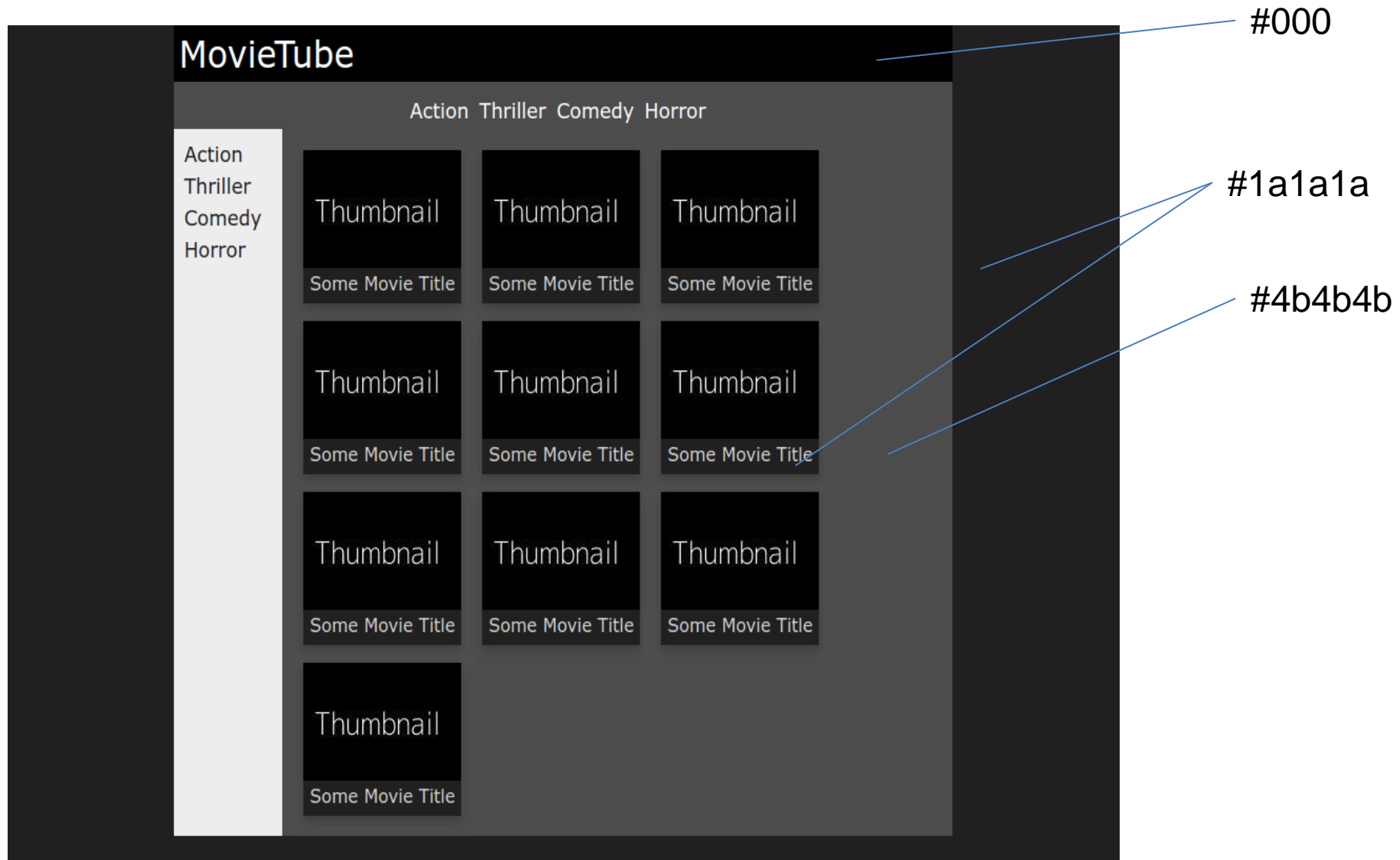- flex = 2, grows twice as fast as items with flex = 1 (default value)

Task: Implement the following layout

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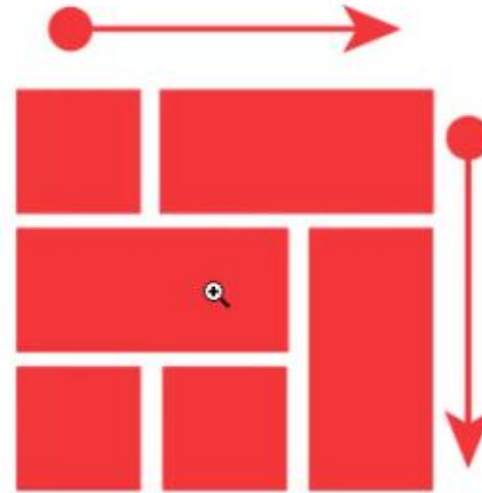
Task: Implement the following layout

Besides the given information, please

1) Implement a dark shadow for the thumbnail elements
   - When not being hovered: dark
   - When hovered: white
2) All Menu Elements are links, that do not have any text-decoration except underline when hovered
3) The width of the main container is minimum 600px and else 70%

Grids

Flexbox
ONE DIMENSION

CSS Grids
TWO DIMENSIONS

Grids