FLEXBOX

Graphical user interface

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Chart, treemap chart

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cross is perpendicular to main axis

display: defines a flex container

flex-direction: direction in which the flex items are placed in a container

flex-wrap: wrapping of items in a container

flex-flow: shorthand for combination of flex-direction and flex-wrap

justify-content: defines the alignment of items along the main axis

align-items: defines how flex items are laid out in the cross axis

align-content: defines the alignment of items along the cross axis (only works with many rows)

**No Flexbox**

A screen shot of a computer

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**display: defines a flex container**

display: flex;

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display: inline-flex;

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**flex-direction: direction in which the flex items are placed in a container**

flex-direction: row;

main axis goes from left to right, row is default value

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flex-direction: row-reverse;

main axis goes from right to left

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flex-direction: column;

makes main axis go from top to bottom

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flex-direction: column reverse;

makes main axis go from bottom to top

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**flex wrap: wrapping of items in a container**

flex wrap: nowrap;

they are all in one line and will overflow if screen is too small, default flex wrap

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flex wrap: wrap;

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flex wrap: wrap-reverse;

wraps above as opposed to below

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without flexwrap, overflow might happen

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notice the items overflow the black border

with flexwrap,

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flex-wrap: wrap reverse;

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**flex-flow: <flex-direction value> <flex-wrap value>, shorthand for combination of flex-direction and flex-wrap**

shorthand for combination of flex-direction and flex-wrap

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**justify-content: defines the alignment of items along the main axi**

justify-content: flex-start;

default, puts contents on the left

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A picture containing graphical user interface

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justify-content: flex-end;

puts contents on the right

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justify-content: center;

puts contents on the center

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justify-content: space-between;

puts spaces between items

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justify-content: space-around;

puts spaces between items and around first and last item (however, space around first and last are smaller than between spaces)

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justify-content: space-evenly;

puts spaces between items and around first and last item evenly

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the same apply for flex-direction: column;

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**Align Items: defines how flex items are laid out in the cross axis**

align-items: stretch;

default value, items stretch to fill the height

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align-items: flex-start;

items are pushed to cross start, which goes from top to bottom

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similarly, align-items: flex-end; align-items: center; does what we have seen before

text-align: baseline

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notice all the letters sit on the red line which is the baseline

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Text

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**align-content: defines the alignment of items along the cross axis (only works with many rows)**

values: stretch (default); flex-start; flex-end; center; space-between; space-around; Graphical user interface, text, application

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Graphical user interface, application

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**Order:**

all flex items have a default order value of 0

thus, if we change item 3 (order: 1;) then it will appear at the end of the flexbox since flex items are arranged from smallest to largest.

If two flex items have the same order, the one that appears first in the source code will appear on the left, hence why item 1 is to the left of item 2 although they both have an order of 0.



**Flex-grow:**

specifies the amount of space inside the flex container a flex item should take up if necessary

flex-grow size is relative to the other flex items

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notice there is extra space at the end, thus we can tell the flex items to grow to fill up the space

by default, the flex grow value is 0, hence why there is extra space since the flex items don’t grow

if we change flex grow for item 5 to be 1, it grows to take up all the remaining space in the container

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if we also change flex grow for item 6 to be 1, item 5 and item 6 both grow equally to fill up the space

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if we change flex grow for item 6 to be 3, item 6 takes up 3 times more space than item 5 since item 6’s flex grow value is 3 times larger than item 5’s flex grow value

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if item 4 has a width of 20px;

then item 5 grows by 10 px to have a width of 30px

then item 6 grows by 30 px to have a width of 50 px

in general, the fraction of the extra space a flex item takes up

= flex grow value of flex item/sum of flex grow value of all items

in the above example the total extra space is 40px

the fraction of the extra space flex item 5 takes up = ¼ which is ¼ of 40px which is 10px which is how much it grew by

likewise, the fraction of the extra space flex item 6 takes up = ¾ of 40px which is 30px which is how much it grew by

to make all the items take up the space evenly, we can do flex-grow:1 for all the flex items

Flex Shrink:

defines the amount a flex item shrinks if needed, amount of shrinking is relative to other flex items

default value is 1, that is why when I reduce screen size, all the items shrink by default until it eventually overflows

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if the flex shrink value is 0, there is no shrinking and immediate overflow



lets say flex-shrink:4; is set for item 2, that means item 2 shrinks 4 times as much as other items

if other items shrink by 25px, item 4 shrinks by 100 px, (note this does not mean its width is 100px)

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lets say width for items is 35 px before shrinking

after shrinking, lets say the other items shrunk to a width of 30 px

thus they shrunk by 5px

this means item 2 shrinks by 4\*5px which is 20 px

this means item 2 now has a width of 15 px

flex grow/shrink makes it ez for important content to grow and trivial content to shrink based on screen size

Flex Basis

specifies the initial size of a flex item

this is used in place of the width property

flex basis can be %, px, rem, auto

by default, flex-basis: auto; which means its size is determined by the content



we can set flex-basis: 400px;



Flex

shorthand for flex grow, flex shrink and flex basis

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we can have 1/2/3 value syntax, prob want use often

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Align Self

alignment of individual flex items

item 1, align-self: start;

item 2, align-self: end;

item 3, align-self: center;

item 4, align-self: stretch; (stretch is not default, it is the default for the flex container tho)

item 5,6,7,8,9, align-self: auto; (default, auto means take the align-items value of the flex container)

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align-self will override align-items

Chart

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