# Grids and Layout

#### No screens





Prof. Lydia Chilton COMS 4170 29 January 2020



DESIEN PRINCIPLE



# Grids and Layout

#### No screens





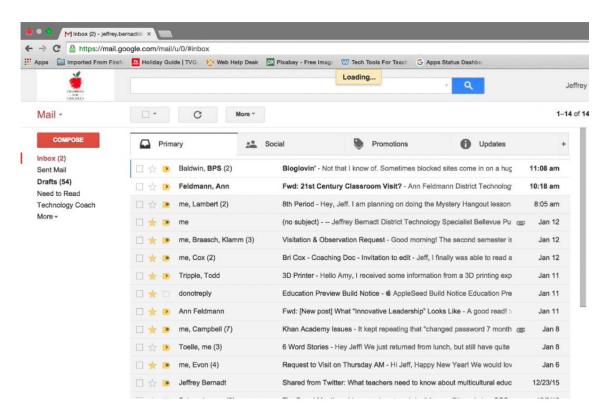
Prof. Lydia Chilton COMS 4170 29 January 2020



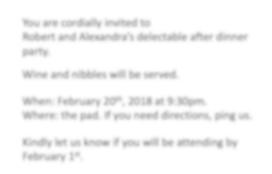
DESIEN PRINCIPLE

# The main feature of many websites is to display information in a way that helps users accomplish a goal.

```
( 37) Loans with tiny points are here now
      Jul 01 R. Jackson
                          ( 123) Loans with tiny rates are here now
      Aug 05 Benjamin E. Mag ( 50) Long time no hear
       May 17 Krista Aaron (44) long time no see....
      Jun 03 Josiah House ( 35) Looking for a hot date tonight, tomorrow, or next week?
       Jul 03 Brigitte I. Hay ( 63) Looking for a N.ew H.Ome?
                          ( 58) Looking for you
       May 17 Joe Burns
       Jun 01 Save in a poor ( 145) Low Rate Consolidation Mortgage Loan
     + Jul 02 Igiel@virtualig ( 2) LowCost SoftWare OnCD
*-Mutt: Mail/junk/spam [Msgs:950 Old:142 10M]---(subject/date)--
ate: Mon, 17 May 2004 03:40:09 +0100
rom: Krista Aaron <Christinefeminine@highstream.com>
ubject: long time no see....
  Autoview using /usr/bin/elinks -force-html -dump ''/tmp/mutt.html'' -- ]
My name is Jen and I'm new to this dating thing. I've checked out your profile
you put up and it's interesting. =) I just want to get to know you a little
          better if you don't mind, come check my profile out at:
                         www.livejen.com/chat.html
also got a webcam so we can make it interesting, anyways hope you get back to
                         gxsnkxxgnduvyjwyceudcjobxs
                            zcozccrociesbehgbpow
                        rnxlfujngpblipdkgwwygofracsz
                        xmqawbxsb.jrppoibvlpfhqowldtp
                         bixhghvrxtqgfeoqcofzycb
                         hugzffaffulsklpzhrfxbtt
                          btpztlfotqmmoaiwlosqv
    627/950: Krista Aaron
  is not bound. Press '?' for help.
```



#### Seven tools for visually indicating importance







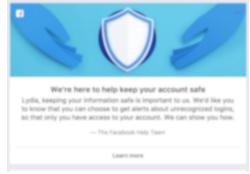


Conceptual grouping

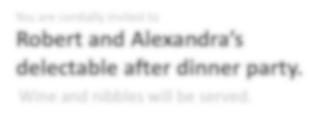
Location

Whitespace

Size





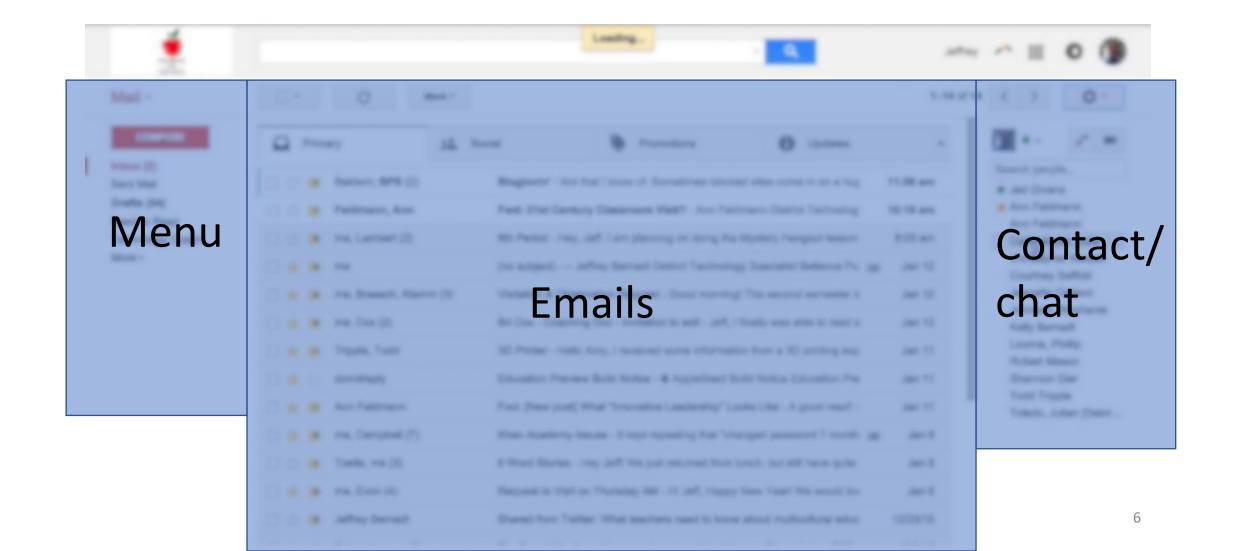




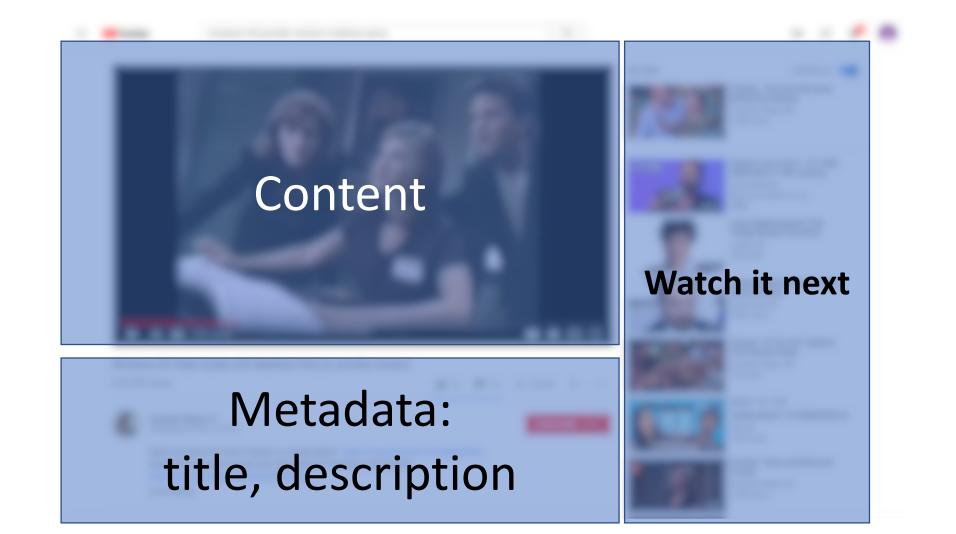


Color

#### What are the conceptual groups in Gmail?



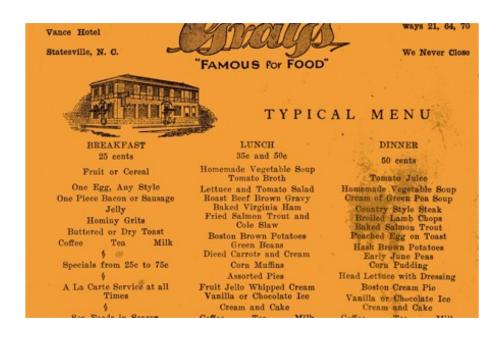
#### What are the conceptual groups in YouTube



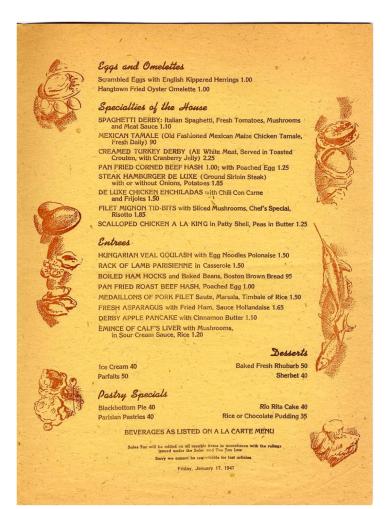
# How should we layout information on a page?

## Old school information layout



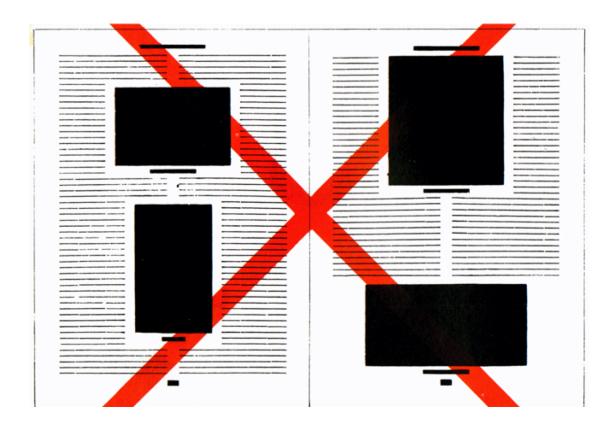


# Symmetrical



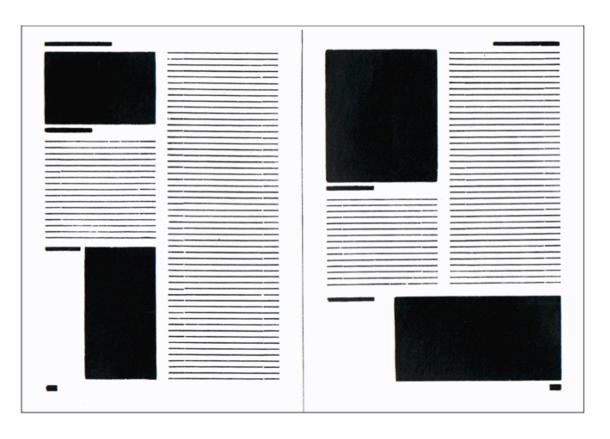
#### Before:

## Symmetric Layout

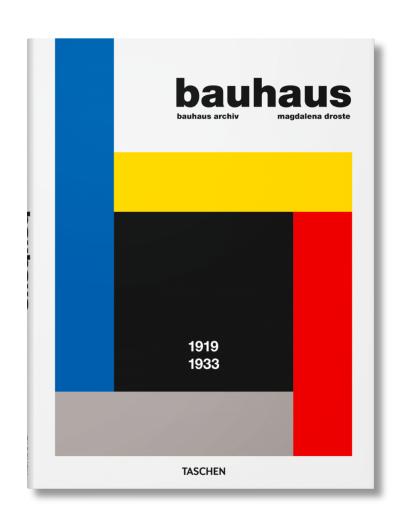


#### Now:

#### Asymmetric Grids Layout

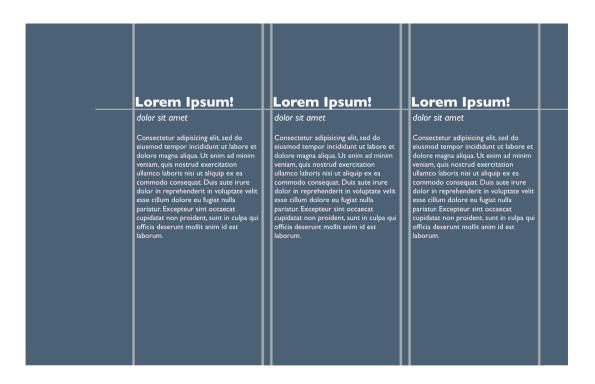


## The Bauhaus School of Design (1919-1933)



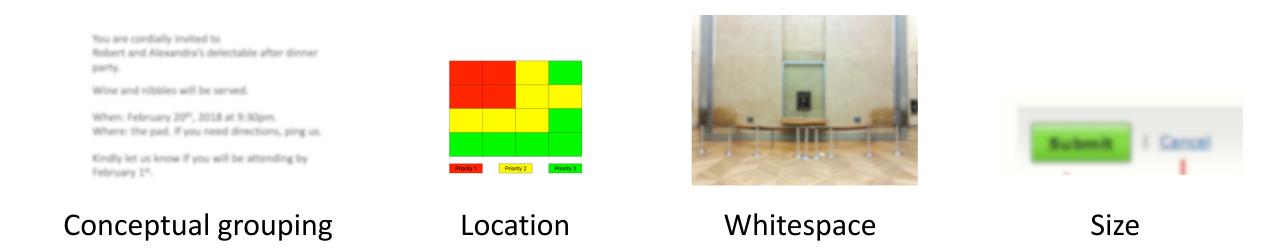


## Grid Layouts: Typographer Jan Tschichold made grid layouts inspired by Bauhaus





# Grids can convey importance though: Groups, location, size and whitespace



# Grids can convey importance though: Groups, location, size and whitespace



How do we create groups in a grid? By creating a column or row.

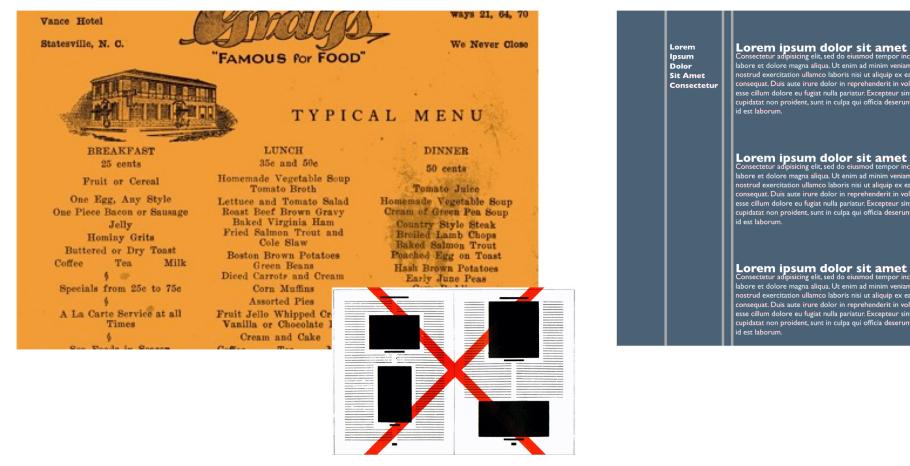
How do we use location to make a group appear more important? Put the information in the upper left grid cell.

How do we use size to make a group appear more important?

Make a column wider.

How do we use whitespace to make a group appear more important? Increase the size of the gutters.

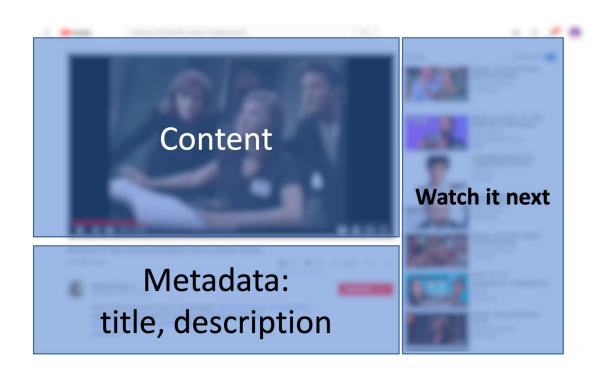
#### Not all the ideas of the Bauhaus school are new.

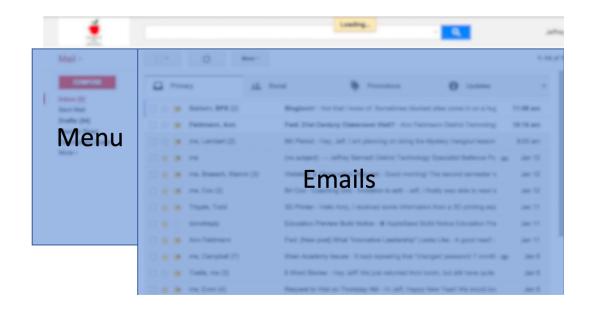




But there is freedom from the symmetric layout.

#### Grid layout heavily influenced web layout

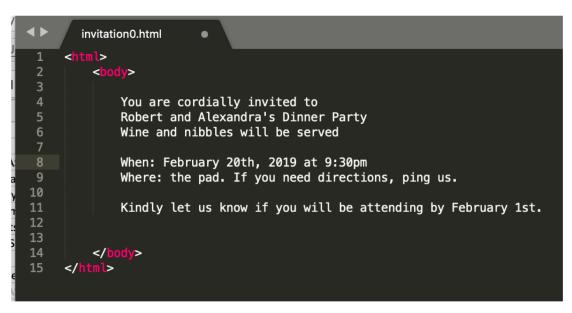


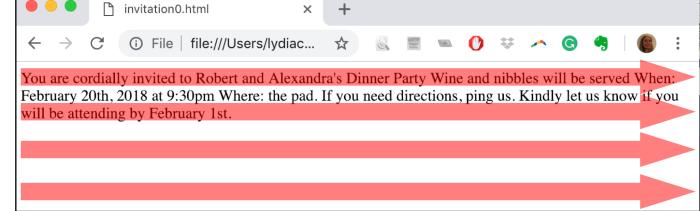


# Basic Layout in HTML (no grids yet)

How to construct the layout of information in HTML and CSS

## Web Browsers are in charge of rendering HTML





# When you add elements, they either obey the line-wrap layout or break it.

```
You are cordially invited to

You are cordially invited to
```



#### <span> elements obey line-wrap layout

```
<div>
    You are cordially invited to <span class
</div>
<div>
    When: February 20th, 2019 at 9:30pm Wher
</div>
```

```
You are cordially invited to Robert and Alexandra's
When: February 20th, 2019 at 9:30pm Where: the pad. If you need
```

# When you use a new element, ask: does it obey or break line-wrap layout?

Anchor (hyperlink)

<a href="slides.pdf|">Slides are here</a>

Slides are here

Image

<img src="columbia.jpg">

# The best way to know what a layout will

Form

look/alike is to run it.

First name:

Mickey

Last name:

Submit

Mouse

#### Today's goal:

#### Remake this information layout in HTML and CSS

#### facebook



#### PictureCorrect Photography Tips

What is your Photography-Related New Year's Resolution??

15 minutes ago · Like · Comment





Sadi Molloy get my business looking more professional: car signed: tick, makeing up portrait folders: tick, stickers & cd covers: still to do... its getting there though.

11 minutes ago · Flag



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## "I finished coding up my website..."

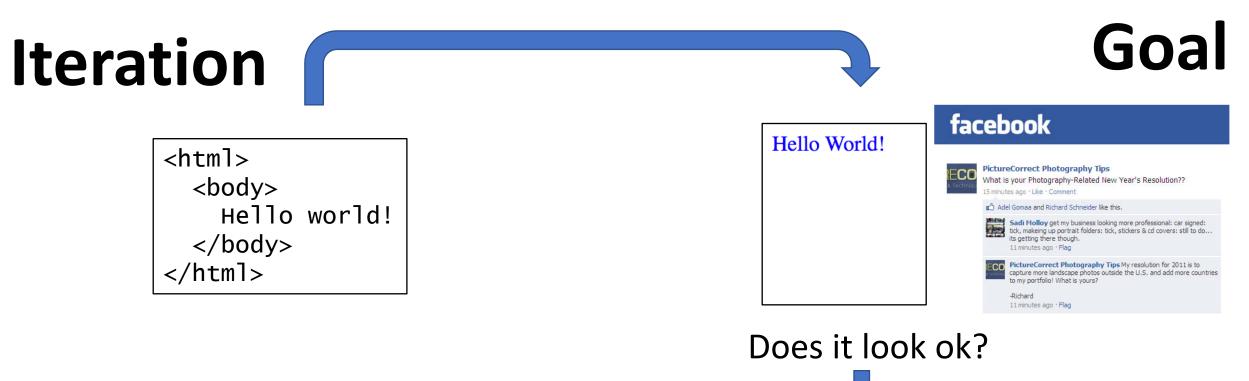
```
:-body class="hasLeftCol _2yq home composerExpanded _5vb_ fbx _-kb sf _2ltu _605a _lfs _61s0 g_n3308lnl2 chrome webkit mac x2 Locale_en_U
cores-gte4 hasAXNavMenubar" dir="ltr" data-gr-c-s-loaded="true">
 ::<div class=" li" id="u 0 j">
   !\div class="3_s0_1toe_3_s1_3_s1 uiBoxGray noborder" data-testid="ax-navigation-menubar" id="u_0_k">...</div>
!\div id="pagelet_bluebar" data-referrer="pagelet_bluebar">...</div>
!\div id="pagelet_bluebar" data-referrer="pagelet_bluebar">...</div id="pagelet_bluebar" data-referrer="pagelet_bluebar">...</div id="pagelet_bluebar" data-referrer="pagelet_bluebar">...</dd>
!\div id="pagelet_bluebar" data-referrer="pagelet_bluebar">...</dd>
!\div id="pagelet_bluebar" data-referrer="pagelet_bluebar">...</dd>
!\div id="pagelet_bluebar" data-referrer="pagelet_bluebar">...</d>
!\div id="pagelet_bluebar" data-referrer="pagelet_bluebar">...</dd>
!\div id="pagelet_bluebar" data-referrer="pagelet_bluebar">...</dd>
!\div id="pagelet_bluebar" data-referrer="pagelet_bluebar" data-referrer="pagelet_blueb
   ::<div class="fb_content clearfix " id="content" role>
    ::<div class="_2pie">
      <div id="toolbarContainer"></div>
     ".<div class="clearfix" id="mainContainer";</pre>
       ...<div class="_1qkq _1qks" id="leftCol" style="margin-top: -12px;">...</div>
       ...<div id="contentArea" role="main" class="_14i5 _1qkq _1qkx">
        <div class="_2c44"></div>
         <div id="pagelet_megaphone" data-referrer="pagelet_megaphone"></div>
...<div id="pagelet_composer" data-referrer="pagelet_composer">...</div</pre>
         ....div id="pagelet_prompts" data-referrer" pagelet_prompts"></div>
div id="pagelet_prompts" data-referrer" pagelet_prompts"></div>
div class="pagelet" id="stories_pagelet_prompts"></div>
div class="pagelet" id="stories_pagelet_pelow_composer" data-referrer="stories_pagelet_below_composer"></div>
il="div id="topnews_main_stream_408239535924329" data-referrer="topnews_main_stream_408239535924329" data-gt="("ref":"nf_generic"}">
il="div class="_Spcb_q67_4]3f" aria-label="News Feed" role="region" id="feed_stream_5a68ebcbc6dc74f27835344">
            <h2 class="accessible_elem" id="newsFeedHeading">News Feed</h2>
             ::<div id="u_ps_0_0_0">
                  ...div data-fte="1" data-ftr="1" class="_5jmm _5pat _3lb4 s_n3308lnlp" id="hyperfeed_story_id_5a68ebcea31933368258994" data-
                testid="fbfeed_story" data-cursor=
"MTUXNjgyNTU@NZoxNTE2ODIINTQ30j16LTY@NTk@OTIyOTkwOTY4NTgwNj16MTUxNTE4MDAyMjo2NTE@NZE2MTI@MjU5NDAxMzI3" data-dedupekey
                  '-3733431725400607942" data-timestamp="1516764239" data-referrer="hyperfeed_story_id_5a68ebcea31933368258994" aria-posinset="1"
                aria-setsize="8" role="article" aria-labelledby="js_o" aria-describedby="js_p js_q" data-insertion-position="0":
                  :::<div class="_4-u2 mbm _4mrt _5v3q _4-u8" id="u_ps_0_0_1">
                   :::<div class="_5pcr userContentWrapper" data-ft="{"tn":"-R"}">
                     !::<div class="_idwg _1w_m _q7o">...</div>
:::<div>...</div>
                    </div>
                   </div>
                  </div>
                  <div></div>
                  ∷div data—fte="1" data—ftr="1" class="_5jmm _5pat _3lb4 s_n3308lnlp" id="hyperfeed_story_id_5a68ebcea33ce0a39762213" data—
                 "MTUXNİqQNTUONZOXNTE2ODIINTQ30jU6LTM3MzM0MzE3MjU0MDA2MDc5NDI6MTUXNİq2NDIzOTo2NTE0NzE2MTI0MjU5NDAXMzI3" data-dedupekey
               "-6459492299996858062" data-timestamp="1516677883" data-referrer="hyperfeed_story_id_5a68ebcea33ce0a39762213" aria-posinset="2' aria-setsize="8" role="article" aria-labelledby="js_r" aria-describedby="js_s" style="display: none !important;">...</div>
               </div>
             </div>
             U<div class="_4ikz" id="substream_1" data-referrer="substream_1">...</div>
             ∴div id="more_pager_pagelet_5a68ebcbc6f345335430150" <mark>data-referrer</mark>="more_pager_pagelet_5a68ebcbc6f345335430150">...</div
            </div>
          </div>
        <img src="https://facebook.com/security/hsts-pixel.gif?c=3.2.5" width="0" height="0" style="display:none">
      ::afte
```



## "It just doesn't work yet!"

## **Iterative** Style of Programming

What is the **smallest** unit of progress I can make?



### Step 0. Make a html page, connect some CSS

```
<!DOCTYPE html>
<html>
<head>
<style>
    #test{
        color: blue;
    }
</style>
</head>

<body>
    <div id="test">Hello World!</div>
</body>

</html>
```



#### What should we do first?

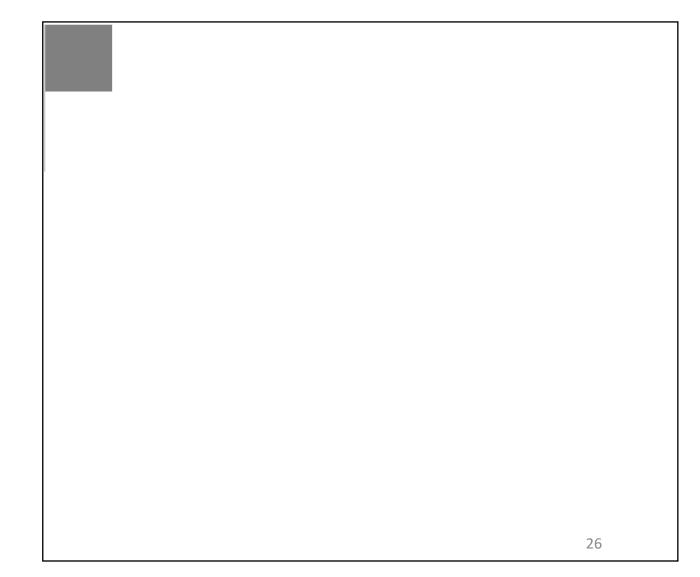


#### Make a container

## Step 1. Make a container div

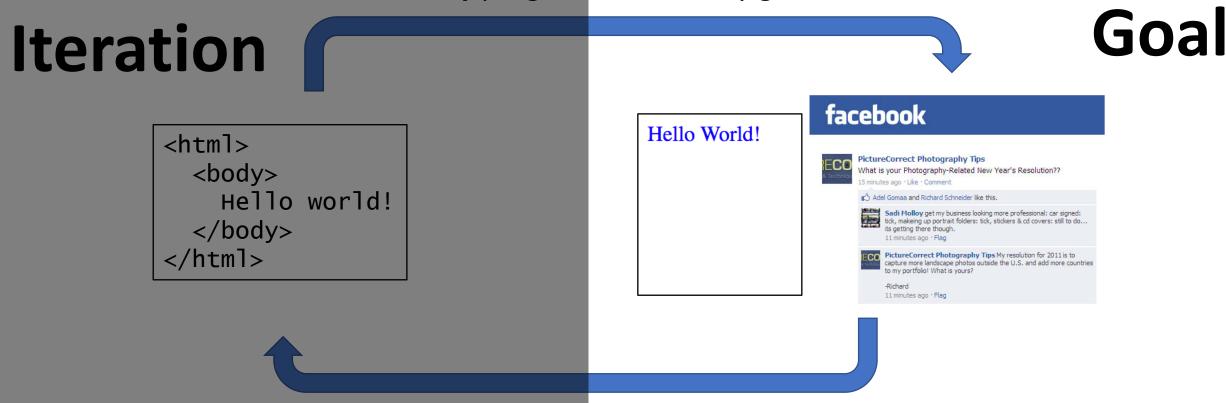
```
1 <div id="container">
2
3 </div>
```

```
#container{
width: 50px;
height: 50px;
background-color: grey;
}
```



# **Iterative** Style of Programming

What's the most **basic** thing I can do to make **necessary** progress towards my goal?



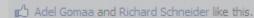
#### Does it look ok? What's next?

#### facebook



#### PictureCorrect Photography Tips

What is your Photography-Related New Year's Resolution??





**Sadi Molloy** get my business looking more professional: car signed: tick, makeing up portrait folders: tick, stickers & cd covers: still to do... its getting there though.

11 minutes ago · Flag



PictureCorrect Photography Tips My resolution for 2011 is to capture more landscape photos outside the U.S. and add more countries to my portfolio! What is yours?

-Richard

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4 minutes ago · Flag

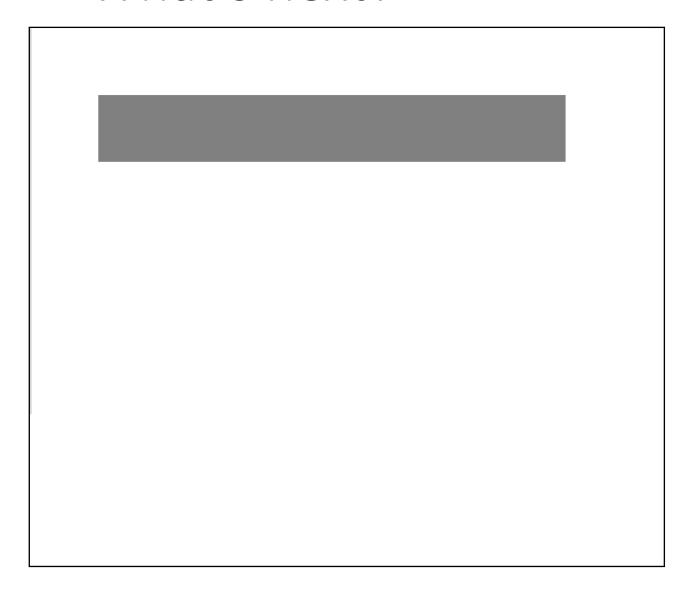
#### Container div has realistic width.

```
1 <div id="container">
2
3 </div>
```

```
1 #container{
2 width: 350px;
3 height: 50px;
4 margin: 50px;
5 background-color: grey;
6 }
```



#### What's next?



#### facebook



#### PictureCorrect Photography Tips

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Adel Gomaa and Richard Schneider like this.



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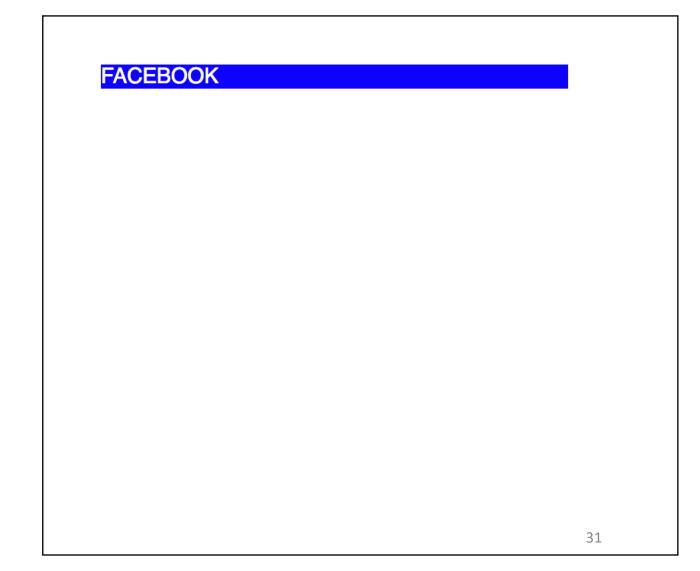
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#### Blue facebook header

```
1 <div id="container">
2 <div id="fb_brand">
3 FACEBOOK
4 </div>
5 </div>
```

```
1 #container{
2 width: 350px;
3 margin: 50px;
4 }
5 
6 #fb_brand{
7 background-color: blue;
8 color: white;
9 }
```



#### What next?



#### facebook



#### PictureCorrect Photography Tips

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15 minutes ago · Like · Comment



Adel Gomaa and Richard Schneider like this.



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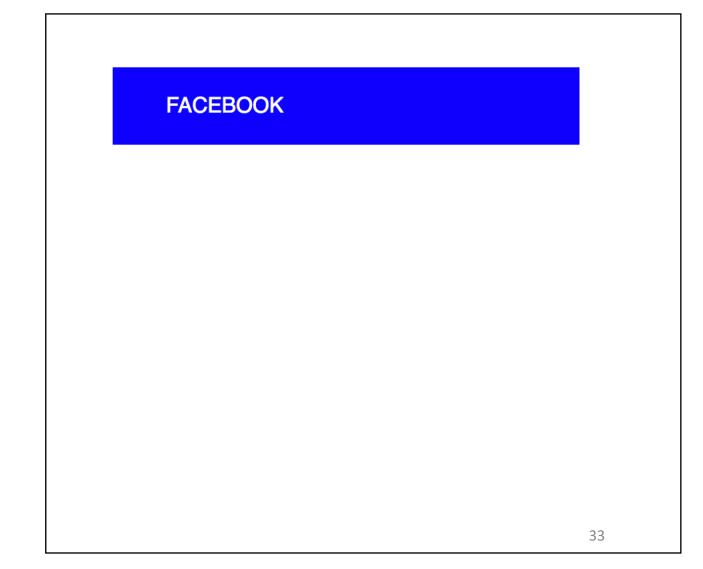
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#### Blue facebook header

```
1 <div id="container">
2 <div id="fb_brand">
3 FACEBOOK
4 </div>
5 </div>
```

```
1 #container{
2 width: 350px;
3 margin: 50px;
4 }
5
6 #fb_brand{
7 background-color: blue;
color: white;
padding-left: 40px;
padding-top: 20px;
11 padding-bottom: 20px;
12 }
```



#### What next?

#### **FACEBOOK**

#### facebook



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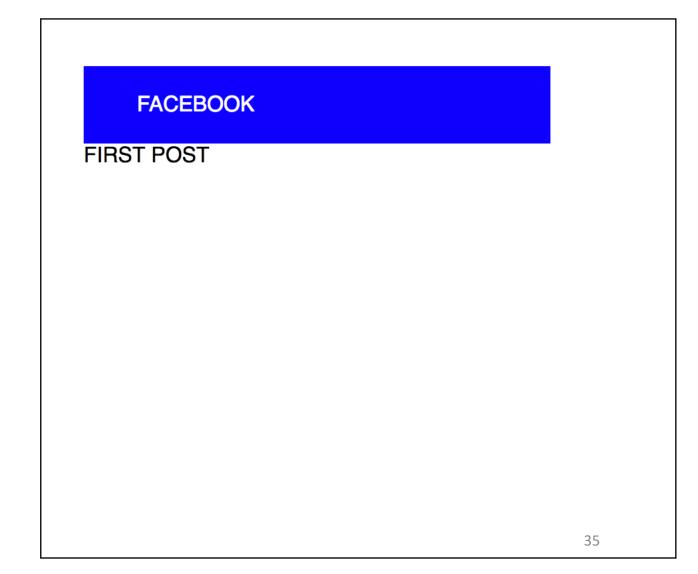
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# Add the first post



#### What next?

#### **FACEBOOK**

**FIRST POST** 

#### facebook



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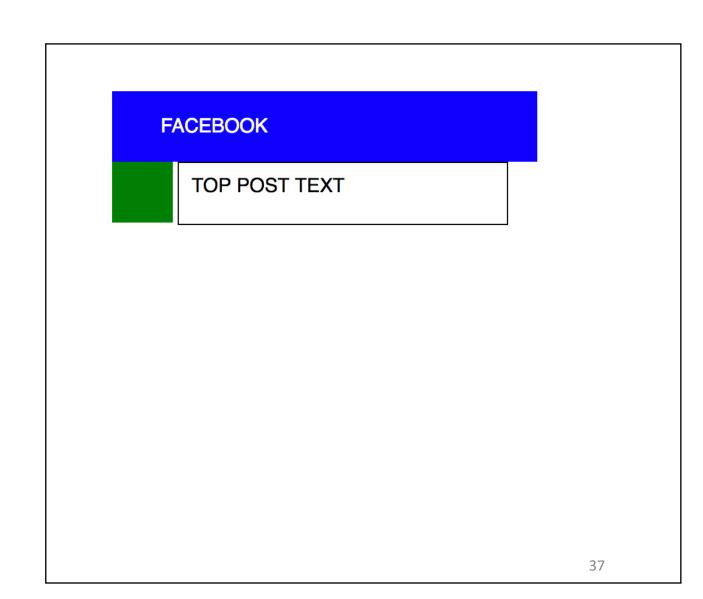


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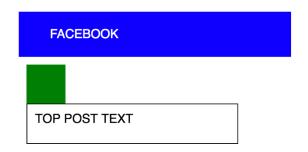
4 minutes ago · Flag

## Add internal structure to the first post

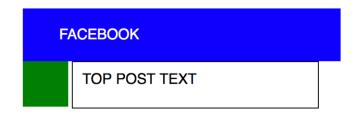
```
14 #top post image{
15
     height: 50px;
16
    width: 50px;
     background-color: green;
17
18
     display: inline-block;
19 }
20
  #top post text{
     height: 30px;
22
    width: 250px;
24
    padding: 10px;
     border: 1px solid black;
     display: inline-block;
26
27
    vertical-align: top;
28
29 }
```



By default, DIV elements will flow down the page. display: block
To get them to flow across the page, you must set display: inline-block

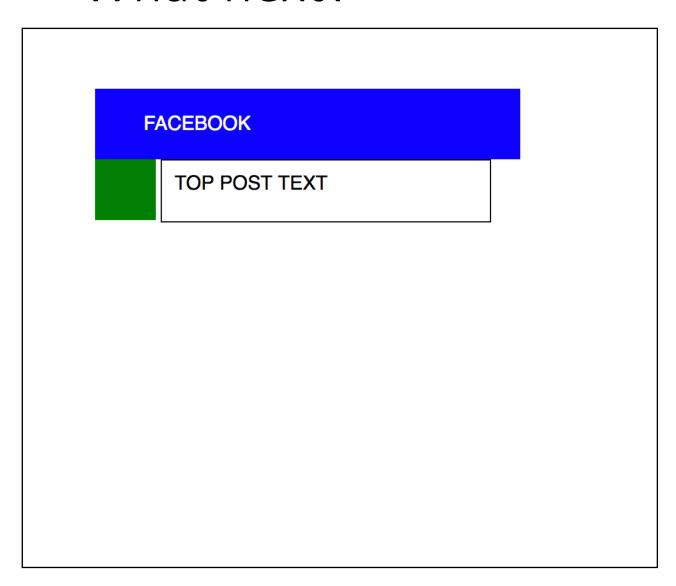






```
14 #top post image{
     height: 50px;
15
     width: 50px;
16
     background-color: green;
     display: inline-block;
18
19 }
20
21 #top post text{
     height: 30px;
     width: 250px;
     padding: 10px;
24
     border: 1px solid black;
     display: inline-block;
26
     vertical-align: top;
27
28
29 }
```

## What next?



## facebook



#### PictureCorrect Photography Tips

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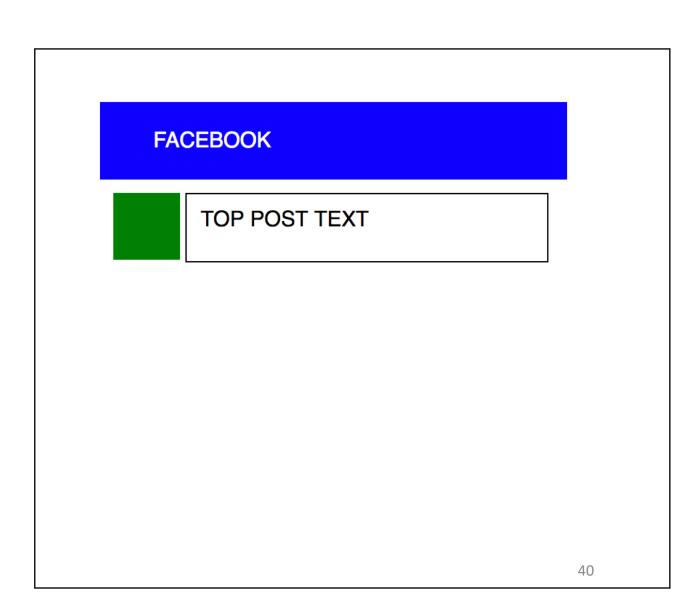


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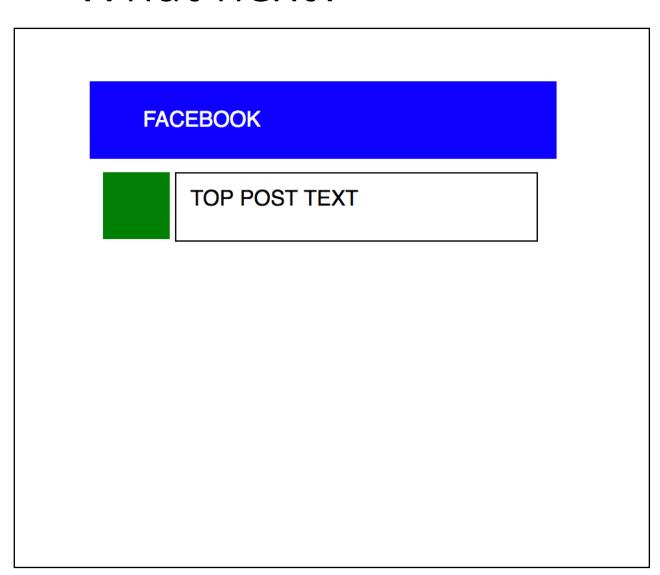
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# Add padding on the top post

```
14 #top_post{
15 padding: 10px;
16 }
```



## What next?



## facebook



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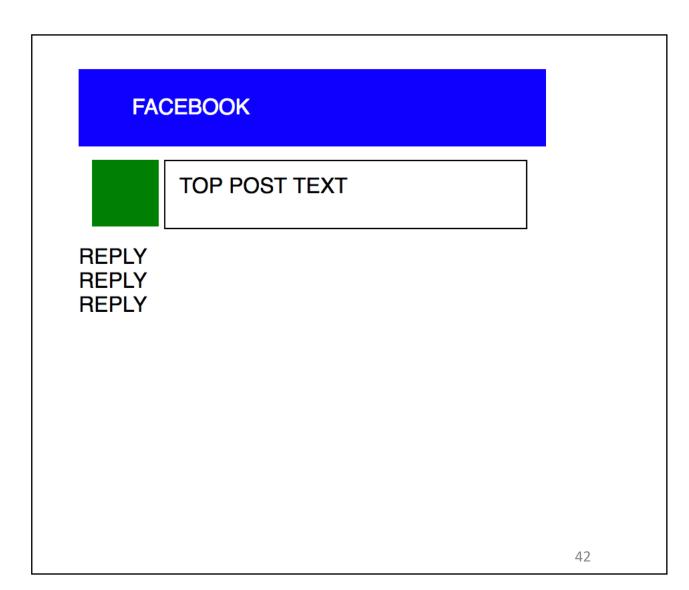


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4 minutes ago · Flag

# Replies

```
<div id="reply_container">
13
       <div class="reply">
14
15
        REPLY
      </div>
16
17
      <div class="reply">
18
        REPLY
      </div>
19
      <div class="reply">
20
21
        REPLY
22
       </div>
23
     </div>
```



## What next?

#### **FACEBOOK**



TOP POST TEXT

REPLY REPLY **REPLY** 

## facebook



#### PictureCorrect Photography Tips

What is your Photography-Related New Year's Resolution??

15 minutes ago · Like · Comment







Sadi Molloy get my business looking more professional: car signed: tick, makeing up portrait folders: tick, stickers & cd covers: still to do... its getting there though.

11 minutes ago · Flag



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-Richard

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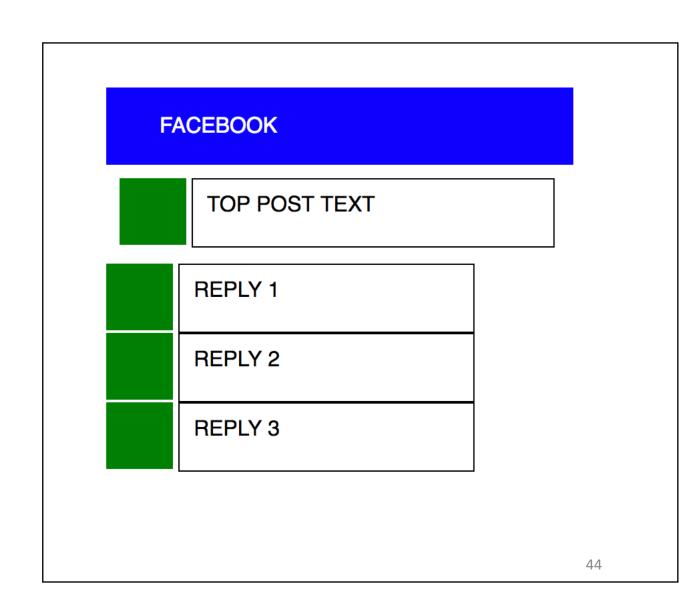


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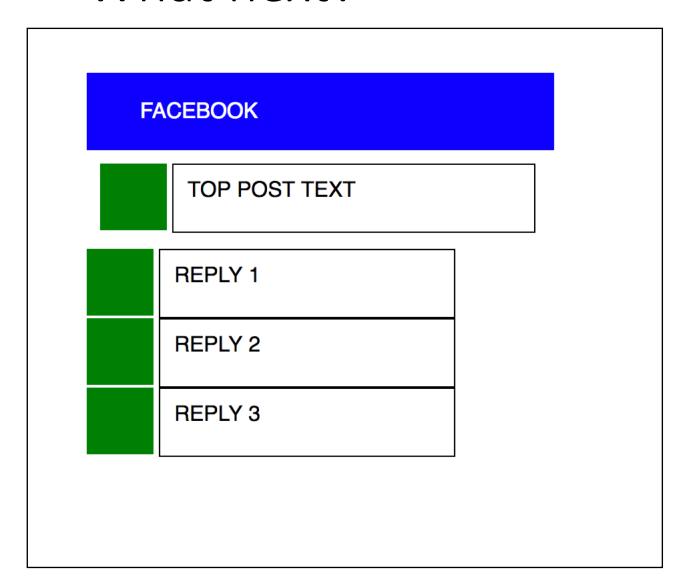
4 minutes ago · Flag

# Reply substructure: image and text

```
35 .reply image{
36
      height: 50px;
37
     width: 50px;
     background-color: green;
38
     display: inline-block;
39
     vertical-align: top;
40
41 }
42
   .reply text{
     height: 30px;
     width: 200px;
45
     padding: 10px;
47
     border: 1px solid black;
     display: inline-block;
     vertical-align: top;
50 }
```



## What next?



## facebook



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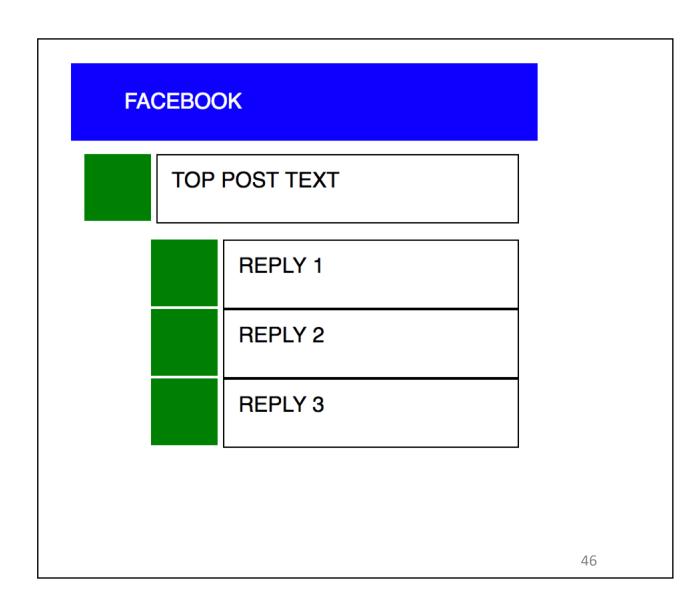


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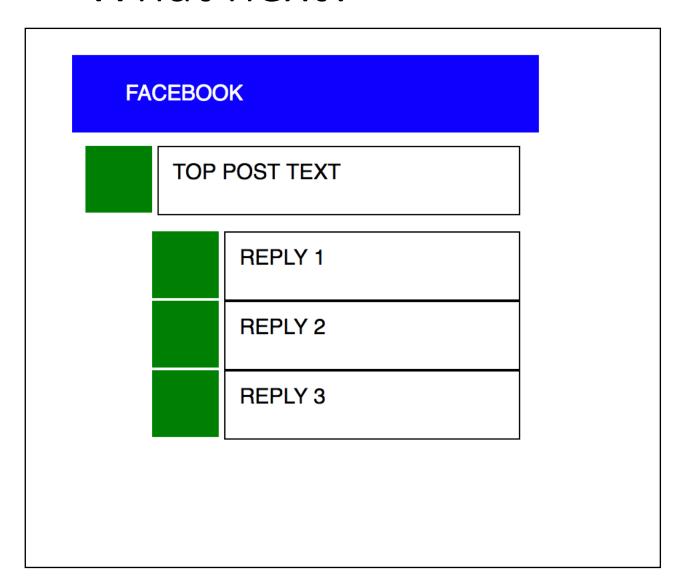
# Reply Container positioning

```
13
     <div id="reply_container">
       <div class="reply">
14
         <div class="reply_image">
15
         </div>
16
17
        <div class="reply_text">
18
           REPLY 1
        </div>
19
       </div>
20
```

```
35 #reply_container{
36  padding-left: 6|0px;
37 }
38
```



## What next?



## facebook



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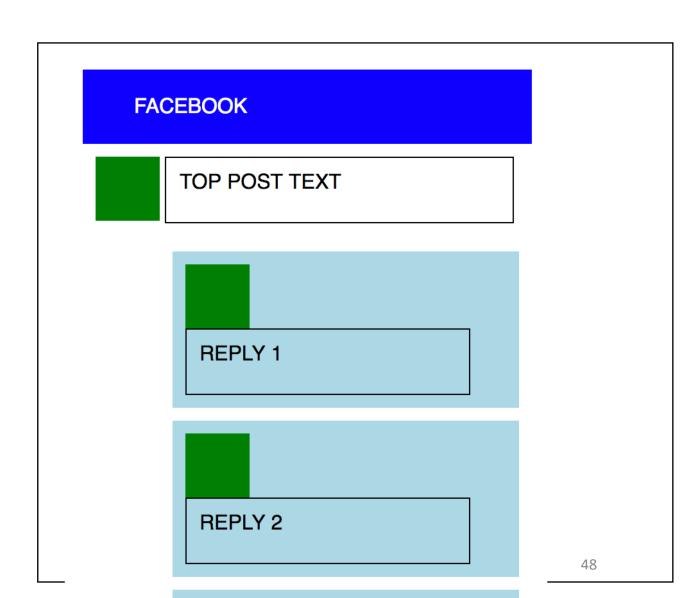


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# Reply Class background-color

```
13
     <div id="reply container">
       <div class="reply">
14
         <div class="reply_image">
15
         </div>
16
17
         <div class="reply_text">
18
           REPLY 1
         </div>
19
       </div>
20
```

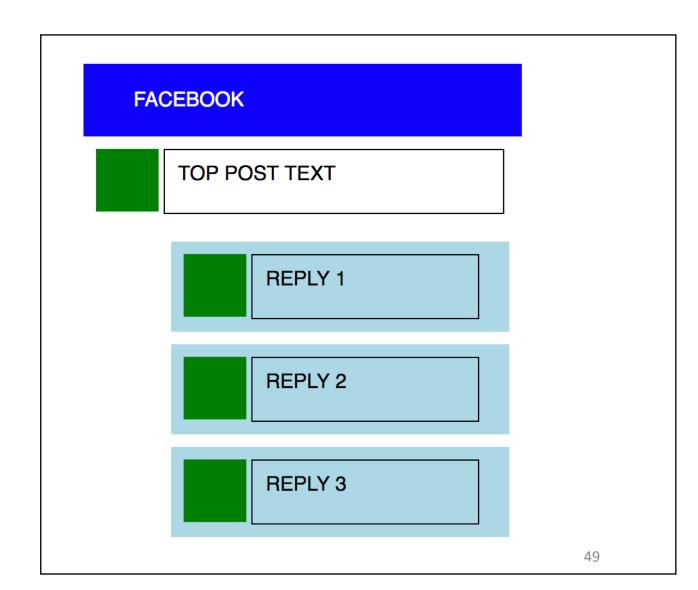
```
39 .reply{
40 background-color: lightblue;
41 padding: 10px;
42 margin: 10px;
43 }
```



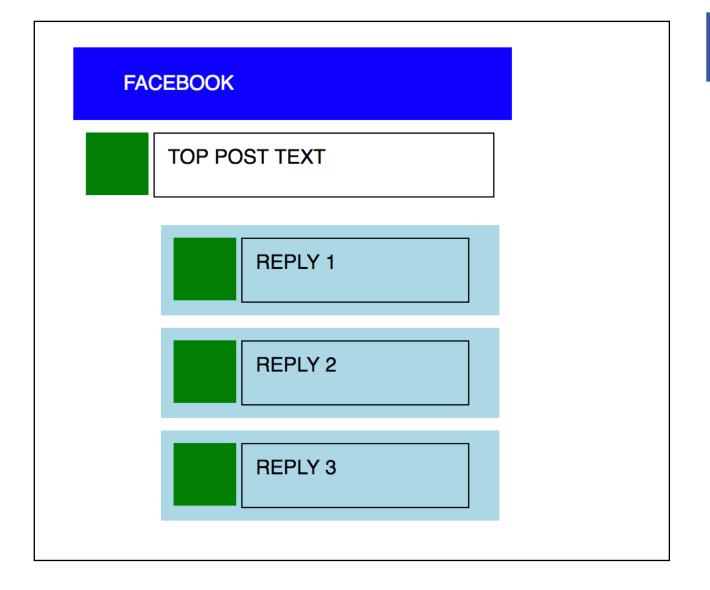
# Reduce Reply Text Width

```
13
     <div id="reply_container">
       <div class="reply">
14
         <div class="reply_image">
15
         </div>
16
17
         <div class="reply_text">
18
           REPLY 1
         </div>
19
       </div>
20
```

```
53 .reply_text{
54  height: 30px;
55  width: 16|0px;
56  padding: 10px;
57  border: 1px solid black;
60  display: inline-block;
59  vertical-align: top;
60 }
```



## What next? Am I done?



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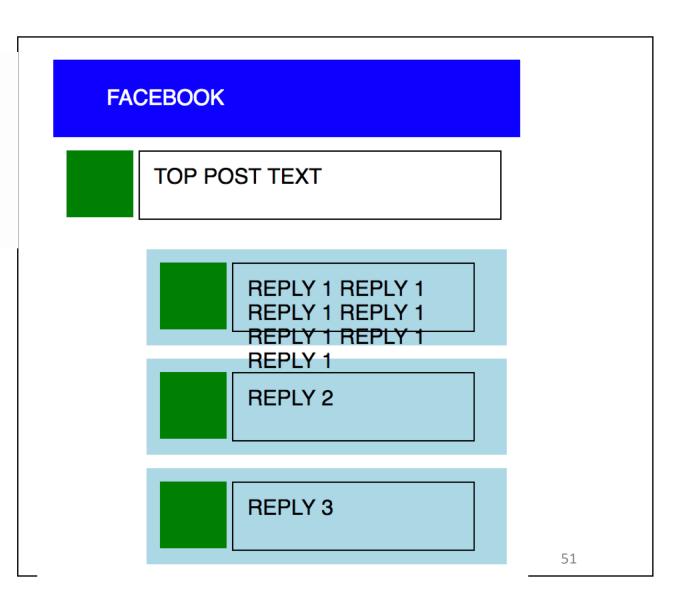
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# Reply Text is longer

```
14
      <div class="reply">
15
        <div class="reply image">
16
        </div>
17
        <div class="reply_text">
18
          REPLY 1 REPLY 1 REPLY 1 REPLY 1
19
          REPLY 1 REPLY 1
20
        </div>
21
      </div>
```

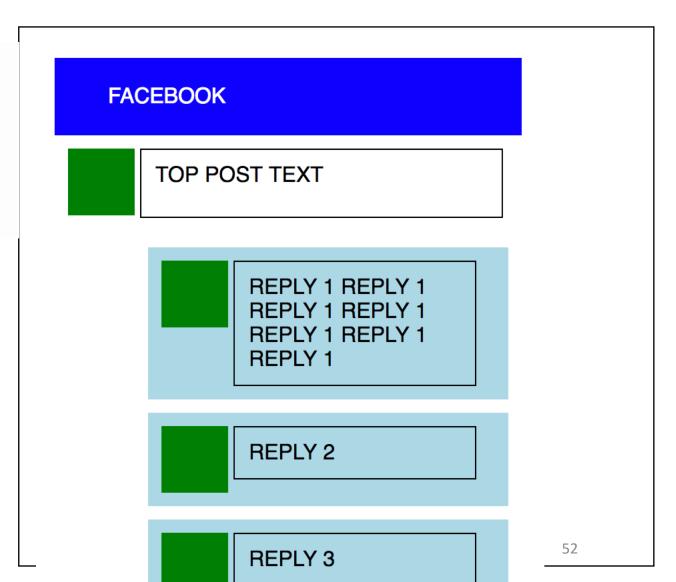
```
53    .reply_text{
54     height: 30px;
55     width: 16|0px;
56     padding: 10px;
57     border: 1px solid black;
58     display: inline-block;
59     vertical-align: top;
60 }
```



# Reply Text height fixed

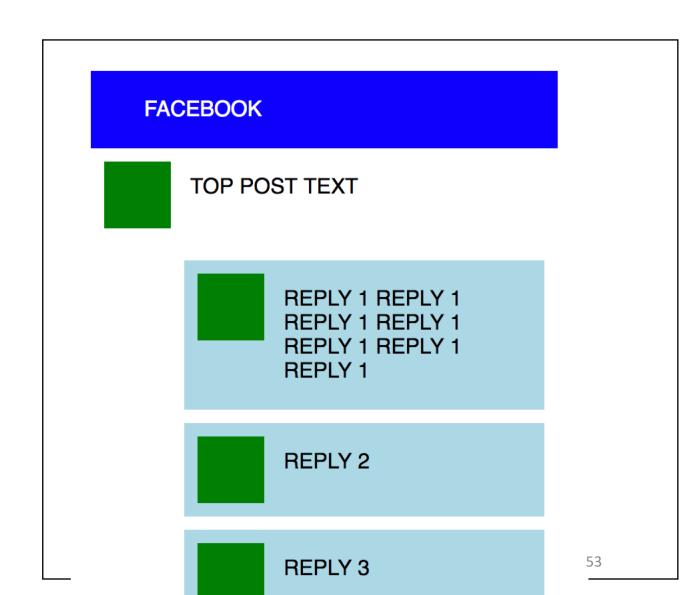
```
14
      <div class="reply">
15
        <div class="reply image">
16
        </div>
17
        <div class="reply_text">
18
          REPLY 1 REPLY 1 REPLY 1 REPLY 1
19
          REPLY 1 REPLY 1
20
        </div>
21
      </div>
```

```
53 .reply_text{
   /*height: 30px;*/
55  width: 160px;
56  padding: 10px;
57  border: 1px solid black;
58  display: inline-block;
59  vertical-align: top;
60 }
```



## Remove borders

```
25 #top post text{
     height: 30px;
    width: 250px;
    padding: 10px;
    /*border: 1px solid black;*/
    display: inline-block;
    vertical-align: top;
31
32
33 }
   .reply_text{
     width: 160px;
55
    padding: 10px;
56
    /*border: 1px solid black;*/
57
     display: inline-block;
58
     vertical-align: top;
59 }
```



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Tina Taylor Hammer Get my new business moving and have it pay for that lens and other equipment that I want (and a little for me too). 54 2 minutes ago · Flag

# After layout... what next?

# facebook



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# Iterative Style of Programming helps you build a mental model of your code.

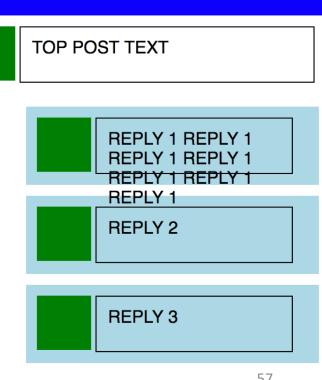
What's the small unit of progress I can make? Hello World! <html> <body> Hello world! </body> </html>

# Iterative Style of Programming helped me recover from errors one at a time (as I created them)

Error 2: reply div padding Error 3: Reply div height Error 1: display inline-block **FACEBOOK FACEBOOK FACEBOOK** TOP POST TEXT TOP POST TEXT TOP POST TEXT

**REPLY 1** 

REPLY 2



# Once you have too many bugs, you can't fix it - you have to start over.

```
::-body class="hasLeftCol _2yq home composerExpanded _5vb_ fbx _-kb sf _2ltu _605a _lfs _61s0 g_n3308lnl2 chrome webkit mac x2 Locale_en_U
 cores-gte4 hasAXNavMenubar" dir="ltr" data-gr-c-s-loaded="true"
  Ultes-gitted Naskovamentum until tit watar some tite tideling to the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the sec
    ...<div class="fb_content clearfix " id="content" role>
     <div class="clearfix" id="mainContainer">
       ....div class="_1qkq _1qks" id="leftCol" style="margin-top: -12px;">-</div>
....div class="_5r-_ homeWiderContent homeFixedLayout newsFeedComposer _1qkq _1ql0" id="contentCol">
         :<div class="clearfix" id="content_container">
        <div class="_2c44"></div>
<div id="pagelet_megaphone" data-referrer="pagelet_megaphone"></div>
           :::<div id="pagelet_composer" data-referrer="pagelet_composer">...</div>
          <div id="pagelet_prompts" data-referrer="pagelet_prompts"></div>
<div class="pagelet" id="stories_pagelet_below_composer" data-referrer="stories_pagelet_below_composer"></div>
           <h2 class="accessible_elem" id="newsFeedHeading">News Feed</h2>
              ::<div class="_4ikz" id="substream_0" data-referrer="substream_0">
                ...<div id="u_ps_0_0_0">
                   ∷<div <mark>data-fte="1" data-ftr="1" class="_</mark>5jmm _5pat _3lb4 s_n3308lnlp" <mark>id=</mark>"hyperfeed_story_id_5a68ebcea31933368258994" <mark>data-</mark>
                  "MTUXNjgyNTU0NzoxNTE20DIINTQ30j16LTY0NTk00TIy0Tkw0TY4NTgwNj16MTUxNTE4MDAyMjo2NTE0NzE2MTI0MjU5NDAxMz13" data-dedupekey=
               "-3733431725400607942" data-timestamp="1516764239" data-referrer="hyperfeed_story_id_5a68ebcea31933368258994" aria-posinset="1" aria-setsize="8" role="article" aria-labelledby="js_o" aria-describedby="js_o" data-insertion-position="0">
                  ...<div class="_4-u2 mbm _4mrt _5v3q _4-u8" id="u_ps_0_0_1">
                    ∷<div class="_3ccb" data-ft="{"tn":"-R"}" data-gt="{"type":"click2canvas","fbsource":703,"ref":"nf_generic"}" id="u_ps_0_0_2">
                    <div></div>
                     Clediv class="_5pcr userContentWrapper" data-ft="{"tn":"-R"}">
                     :::<div class="_1dwg _1w_m _q70">...</div>
                      ∴<div>...</div>
                    </div>
                   </div>
                  <div></div>
                 </div>
                   testid="fbfeed_story" data-cursor=
"MTUxNjqyNTU0NzoxNTE20DI1NT030jU6LTM3MzM0MzE3MjU0MDA2MDc5NDI6MTUxNjc2NDIz0To2NTE0NzE2MTI0MjU5NDAxMzI3" data-dedupekey=
                 "-6459492299096858062" data-timestamp="1516677083" data-referrer="hyperfeed_story_id_5a68ebcea33ce0a39762213" aria-posinset="2"
                aria-setsize="8" role="article" aria-labelledby="js_r" aria-describedby="js_s" style="display: none !important;">...</div>
               </div>
              :::div class="_4ikz" id="substream_1" data-referrer="substream_1">_</div>
:::div id="more_pager_pagelet_5a68ebcbc6f345335430150" data-referrer="more_pager_pagelet_5a68ebcbc6f345335430150">_</div>
           </div>
           </div>
          </div>
          <img src="https://facebook.com/security/hsts-pixel.qif?c=3.2.5" width="0" height="0" style="display:none">
         </div>
::after
```

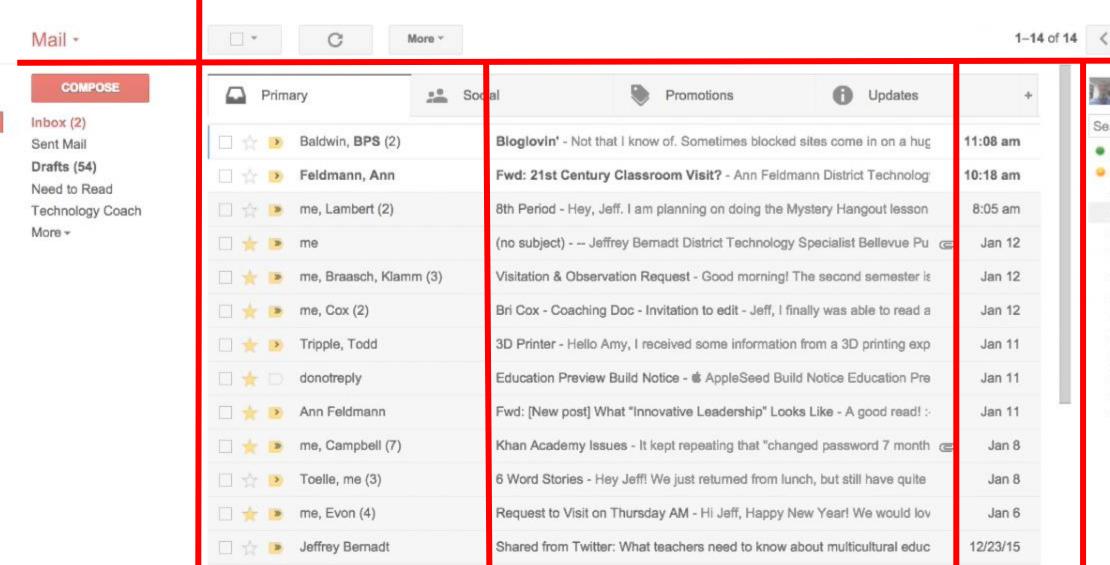


# Grids

Currently the dominant way to layout information

# That worked but it would be much easier if we had a grid.





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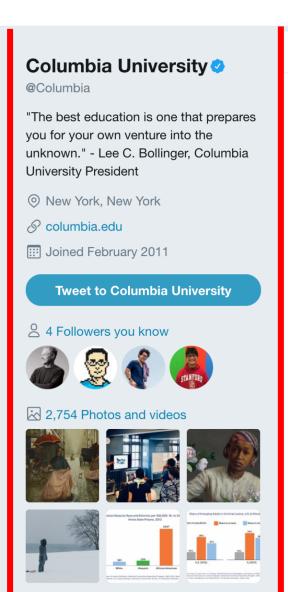


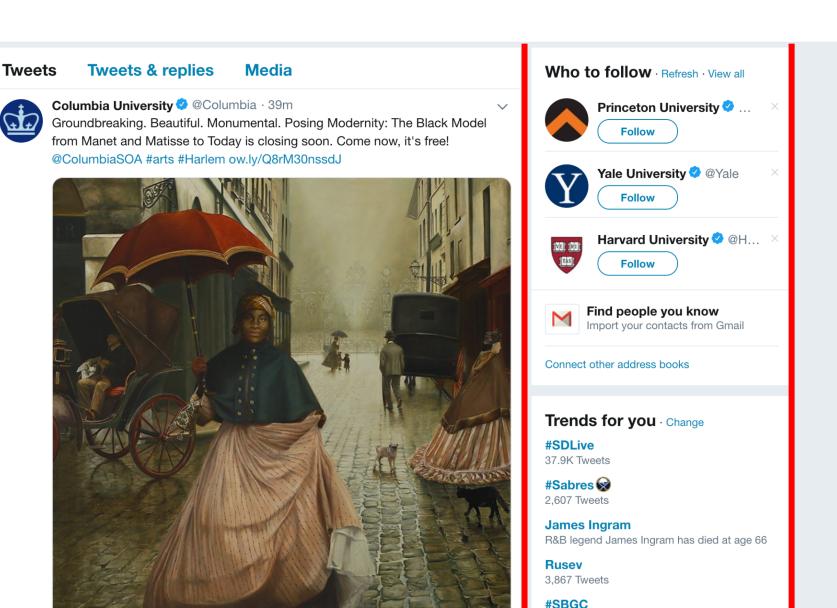


# Twitter Bootstrap

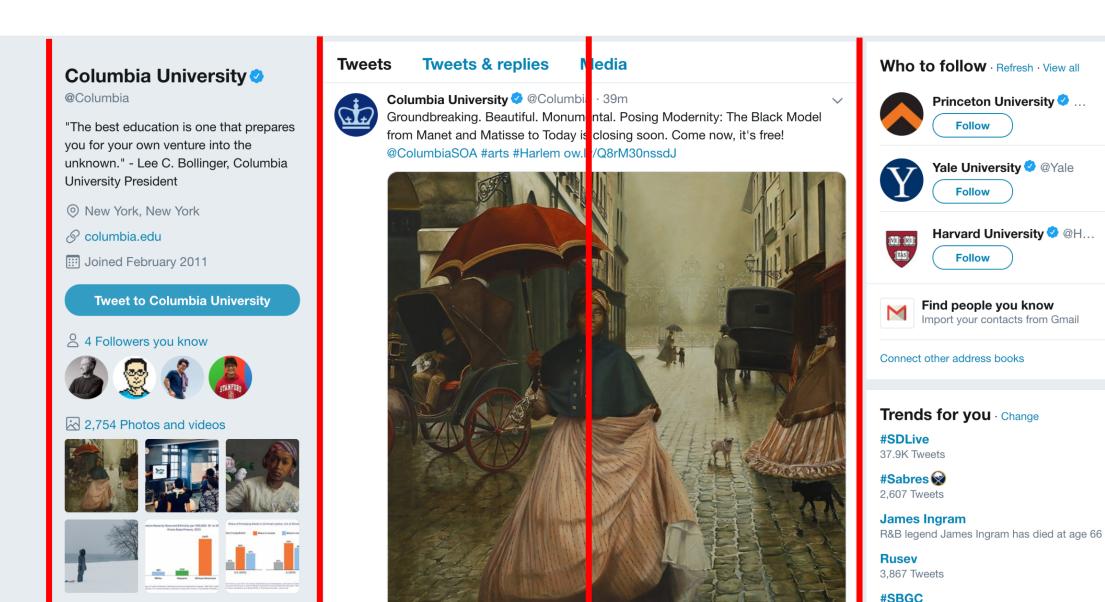
An implementation of grid layout

# How many columns do you see?

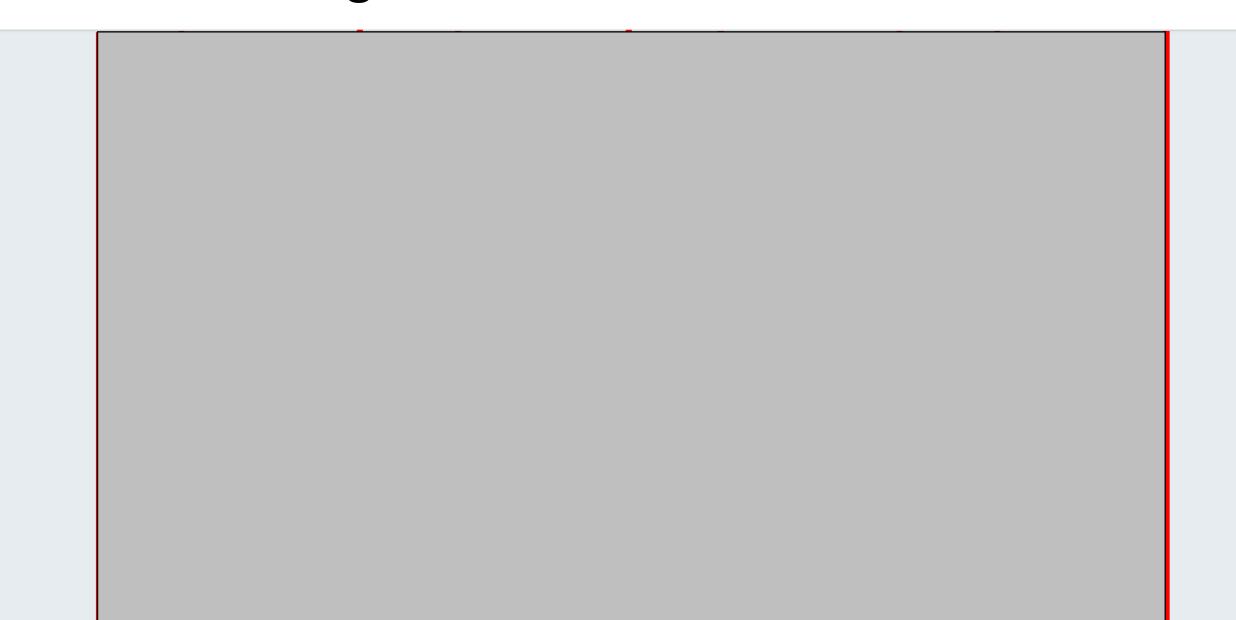




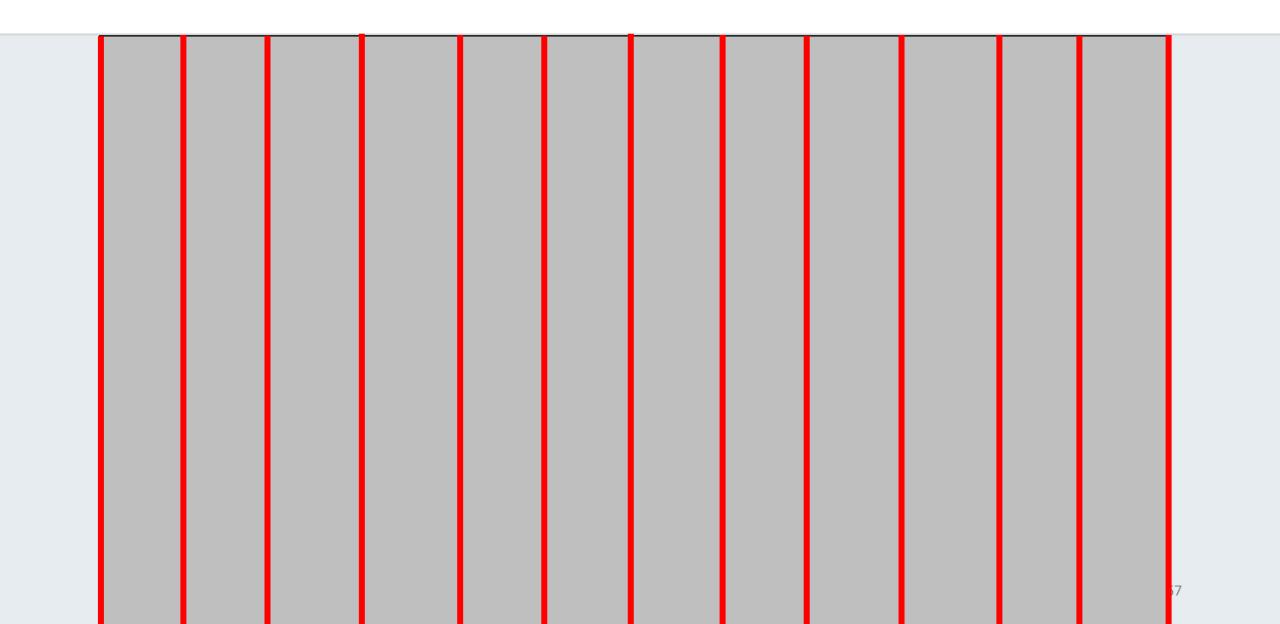
# How wide is the middle (compared to the sides)?



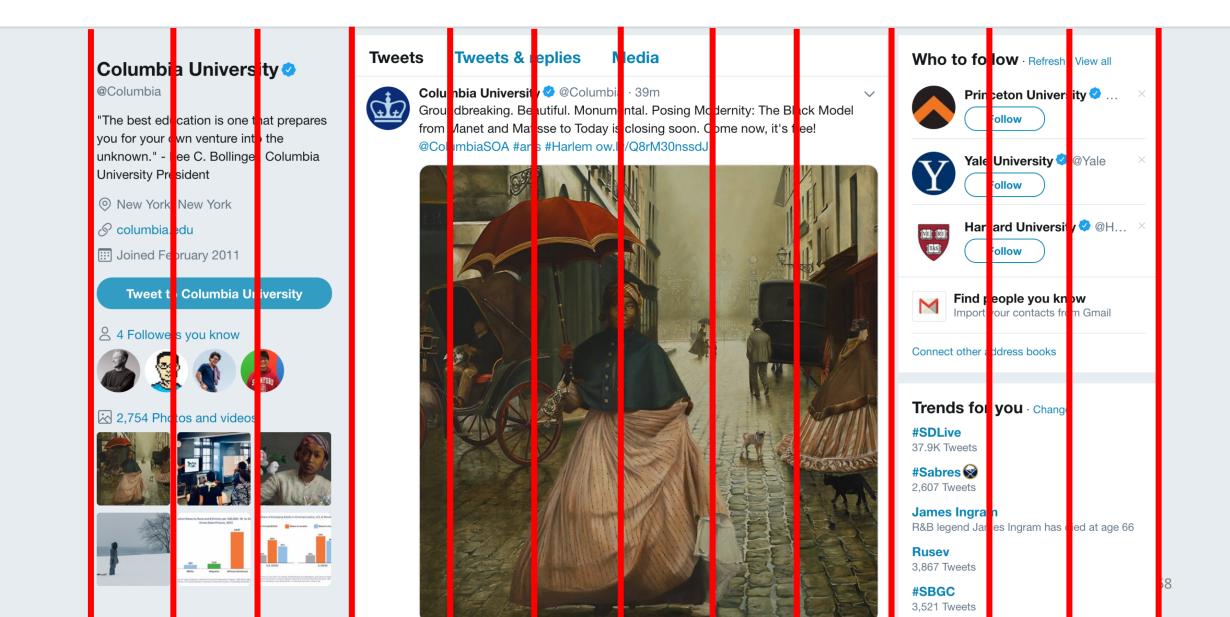
# All content goes in the main container



# The container is divided into 12 columns



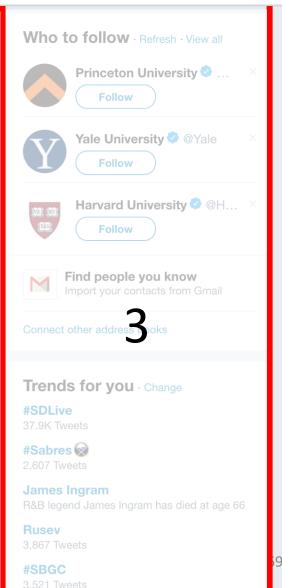
# You get to apportion those 12 columns



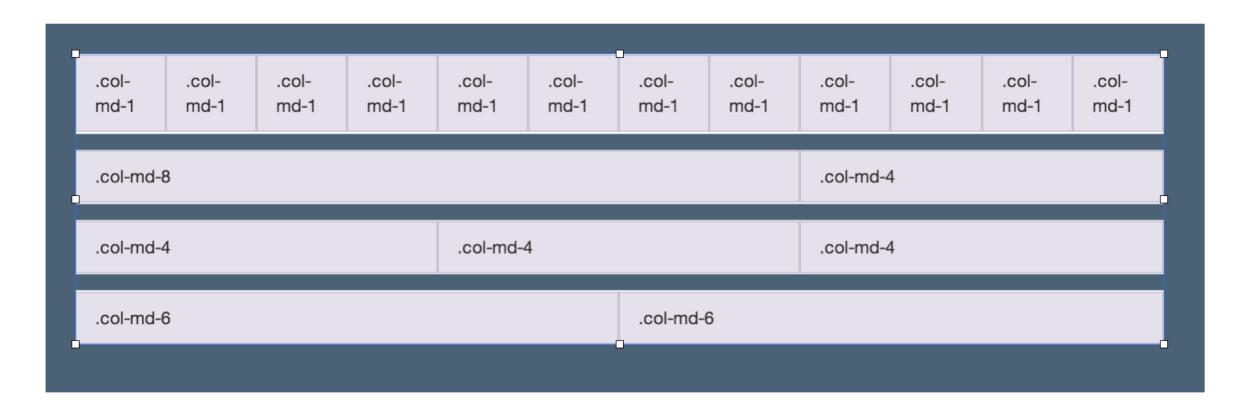
# 12 columns: split in 3, 6, 3



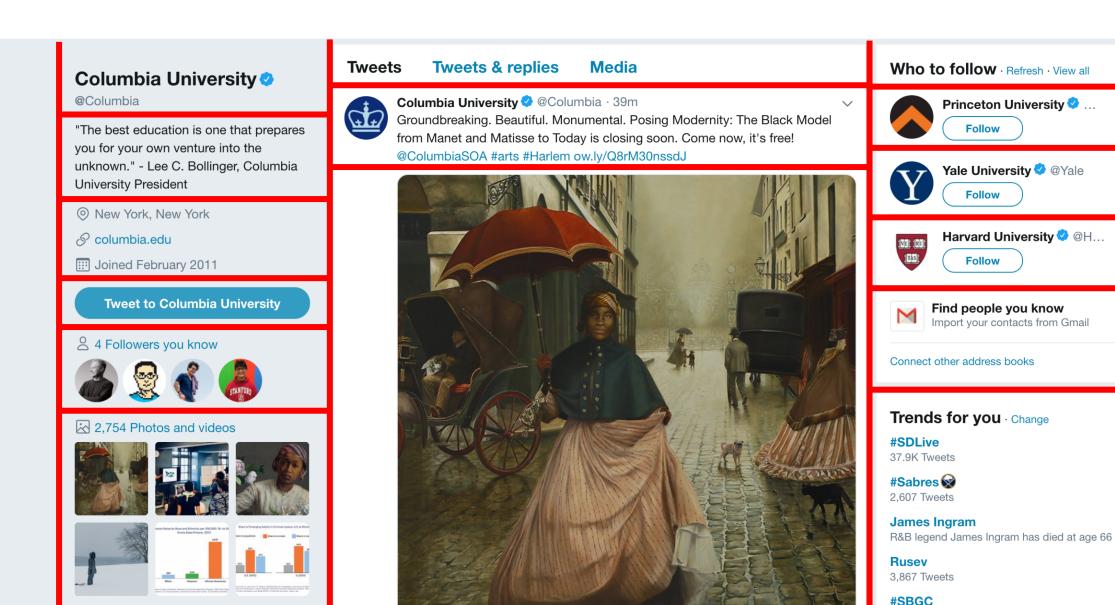




# Bootstrap grid. How many columns?



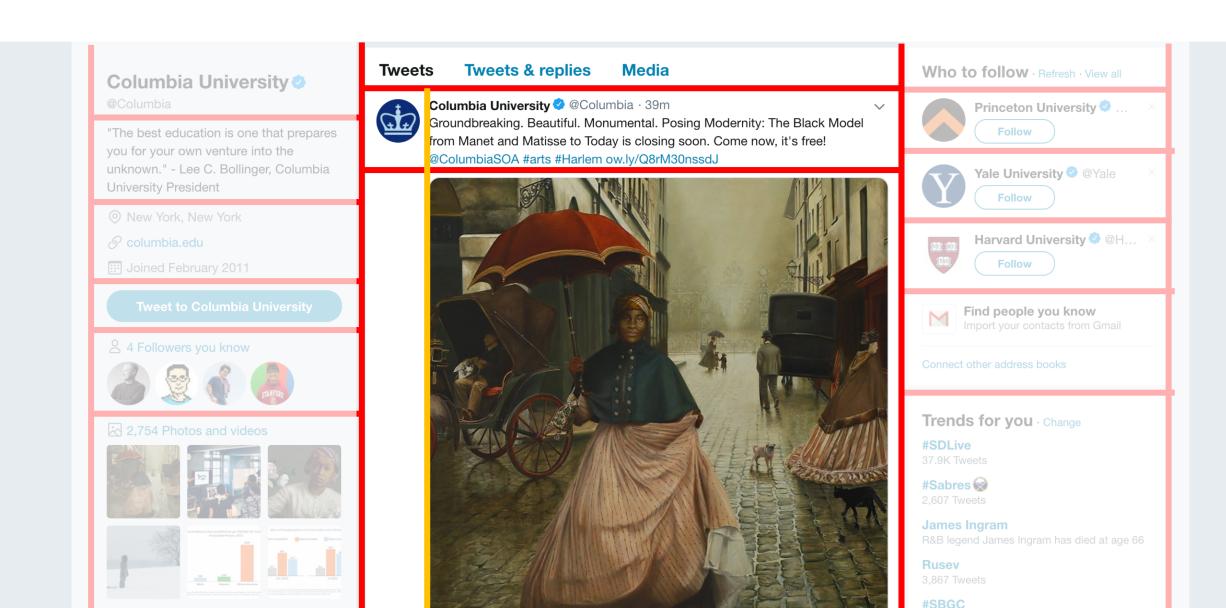
## Do the columns have the same rows?



# Is there alignment within the column?



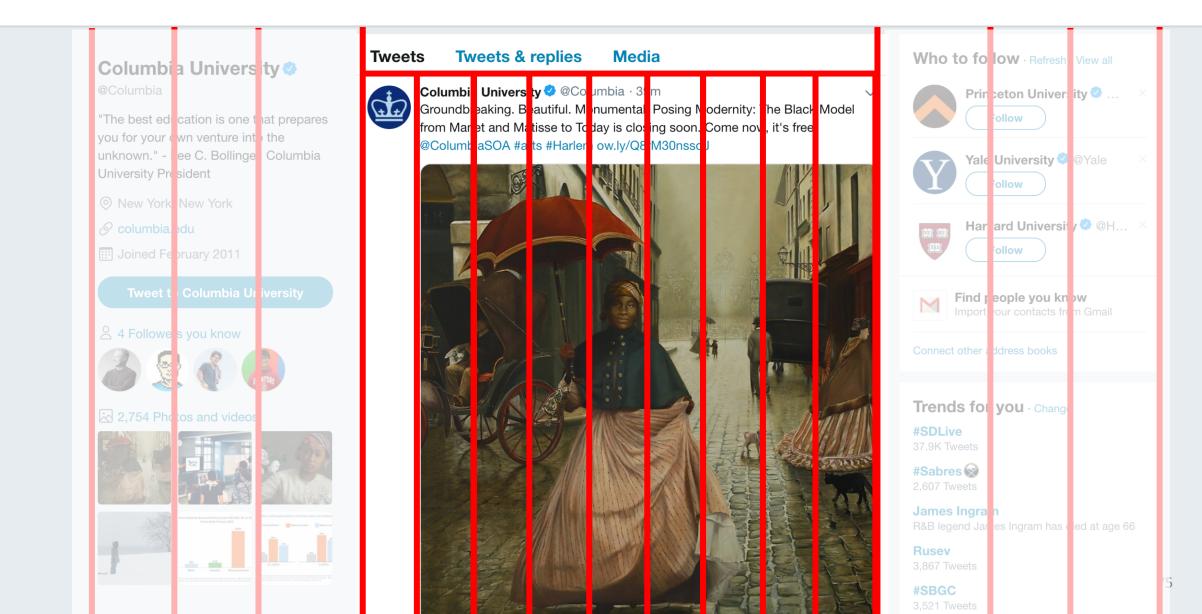
## Can you use the original grid?



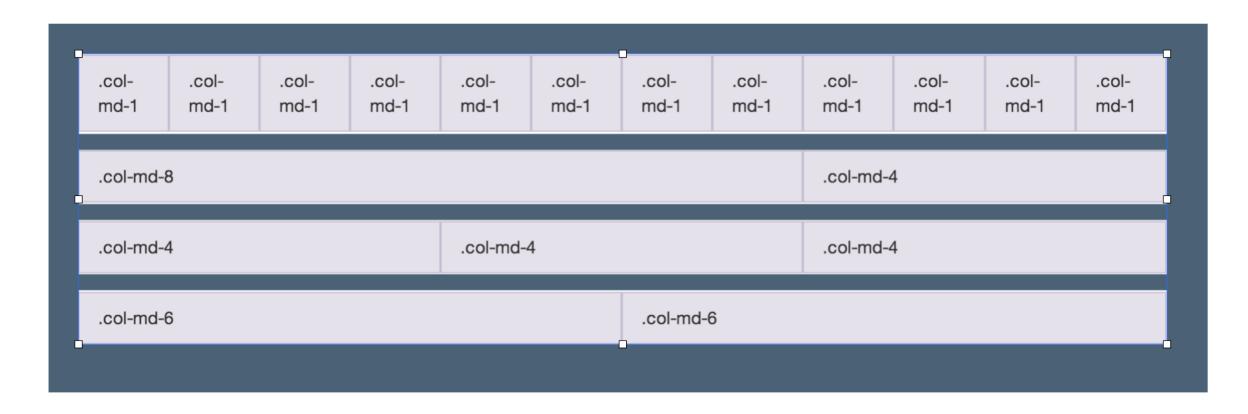
## Can you use the original grid? NO



## Grids within grids!!!



#### Bootstrap grid. Apportion 12 columns.



#### 1

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This bot-generated Coachella...

Haha · 3 hours ago



Hoop of Gomb - Lab Raid - Jacked Like A Man - Giraffics - Ben Sex Hissing no-Sultz - Fistipal - Slaue Bomb - Bigs the Bung - Ow - House of the Bavins - Big Sting Sting Goplins - Mart - Spelge Like - Paylot - Giraf - Seas - Gloss - Sept Bardee But the Stiff - Seas - Gloss - Sept Bardee But the Stiff - Seas - Gloss - Sept Bardee But the Stiff - Seas - Gloss - Seas -

SATURDAY APRIL 14 5 21

One of Pig

Lil Hack

SUNDAY APRIL 15 5.22

Mild By Boys Beachfeel - Paper Cop Boneo -- Bootley Tims Neon Michiganh Here Comes - Beath - Miles Gank Billions - Marci Mindass Skin Clump Paper Miles Gank Billions - Marci Mindass Skin Clump Paper Miles Carelly John State - Marci Miles - Marci Mindass Skin Clump Paper Miles Carell John Miles - Marci Miles -

With large-scale art installations by

People are going crazy over this...



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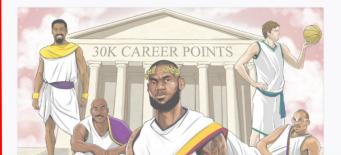
Sign up

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#### World News >



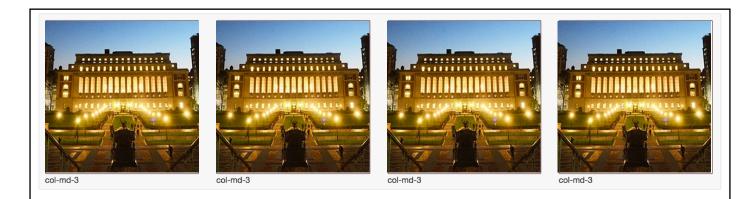
#### Add Bootstrap to your HTML

CSS & JS in <head> tag, before your own CSS

```
<!doctype html>
2 <html>
     <head>
       <meta charset="utf-8">
       <title>Test</title>
       <!-- Add Boostrap -->
      <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-alpha.6/css/bootstrap.min.css" integ</pre>
       <script src="https://code.jquery.com/jquery-3.1.1.slim.min.js" integrity="sha384-A7FZj7v+d/sdmMqp/n0QwliLvUsJfDHW-</pre>
       <script src="https://cdnjs.cloudflare.com/ajax/libs/tether/1.4.0/js/tether.min.js" integrity="sha384-DztdAPBWPRXS/</pre>
       <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-alpha.6/js/bootstrap.min.js" integrity="sha384-vBWWz"</pre>
11
12
       <!-- Add our own CSS and JS -->
13
       <link href="components/main.css" rel="stylesheet" type="text/css">-
15
```

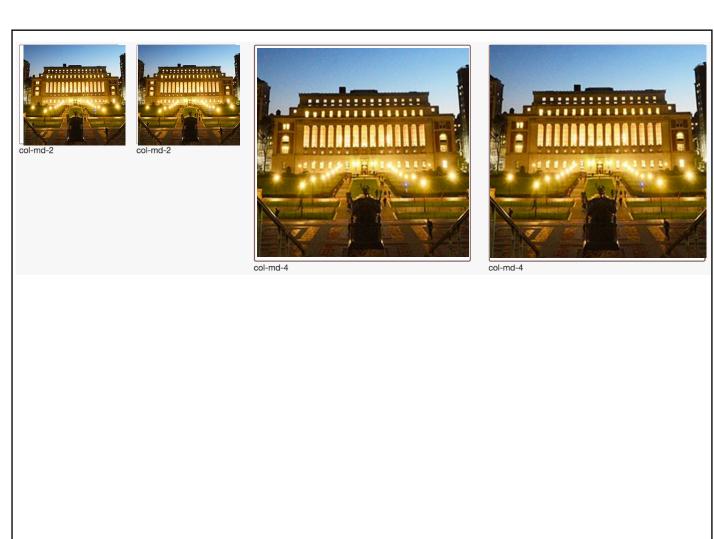
#### 1. What will this produce?

```
<div class="container">
 <div class="row">
   <div class="col-md-3">
      <img src="./columbia.jpg">
   </div>
   <div class="col-md-3">
      <img src="./columbia.jpg">
   </div>
   <div class="col-md-3">
     <img src="./columbia.jpg">
   </div>
   <div class="col-md-3">
      <img src="./columbia.jpg">
   </div>
 </div>
</div>
```



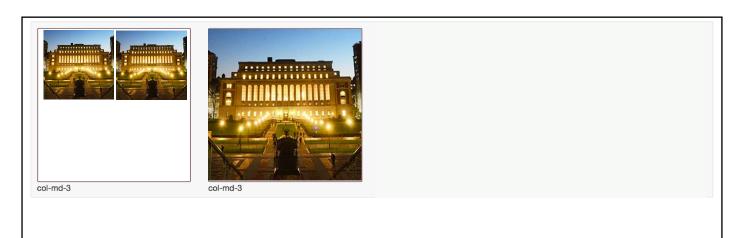
#### 2. What will this produce?

```
<div class="container">
 <div class="row">
   <div class="col-md-2">
      <img src="./columbia.jpg">
   </div>
   <div class="col-md-2">
      <img src="./columbia.jpg">
   </div>
   <div class="col-md-4">
     <img src="./columbia.jpg">
   </div>
   <div class="col-md-4">
      <img src="./columbia.jpg">
   </div>
 </div>
</div>
```

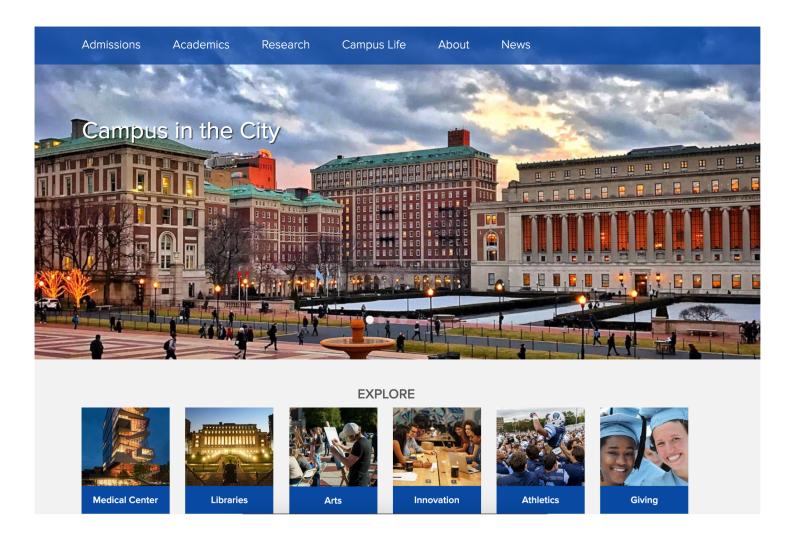


#### 3. What will this produce?

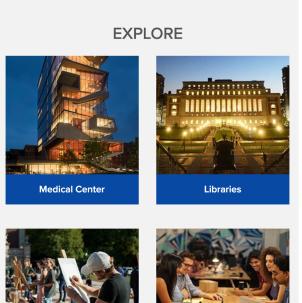
```
<div class="container">
 <div class="row">
   <div class="col-md-3">
      <div class="row">
        <div class="col-md-6">
            <img src="./cu.jpg">
        </div>
        <div class="col-md-6">
            <img src="./cu.jpg">
        </div>
      </div>
   </div>
   <div class="col-md-3">
      <img src="./cu.jpg">
   </div>
   <div class="col-md-6">
   </div>
 </div>
</div>
```



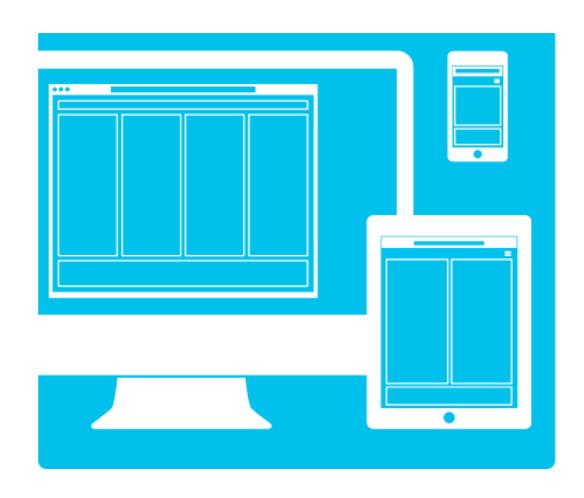
## Bootstrap solves another problem for you







Bootstrap enables **responsive design**: making it easy for the layout to respond to changes in the screen size.

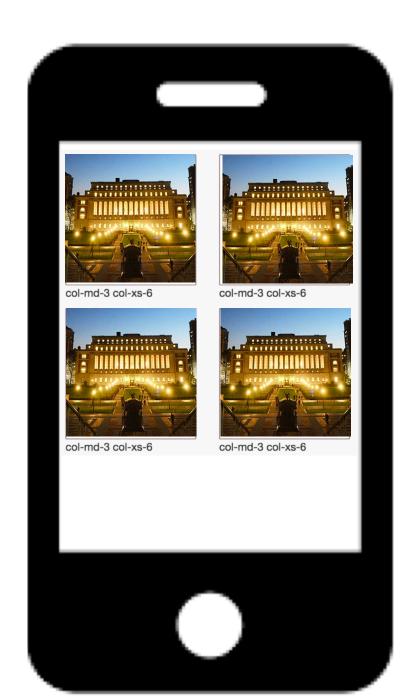


#### Four Device sizes



#### What will this do on a phone?

```
<div class="row">
  <div class="col-md-3 col-sm-6">
    <img src="./columbia.jpg">
  </div>
  <div class="col-md-3 col-sm-6">
    <img src ="./columbia.jpg">
  </div>
  <div class="col-md-3 col-sm-6">
    <img src ="./columbia.jpg">
  </div>
  <div class="col-md-3 col-sm-6">
    <img src ="./columbia.jpg">
  </div>
</div>
```

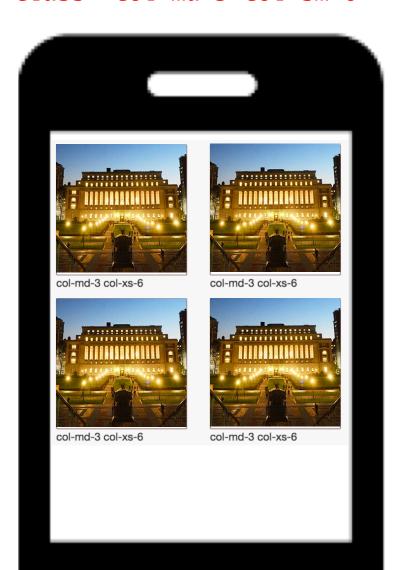


## What's the difference in layout?

class="col-md-3"

class="col-md-3 col-sm-6"

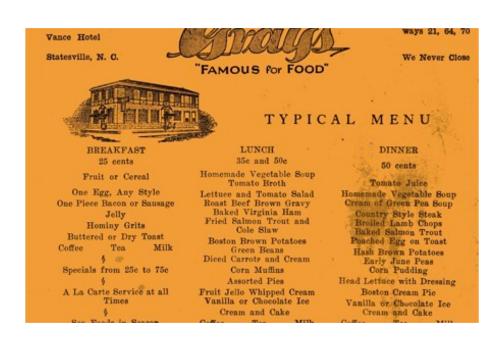


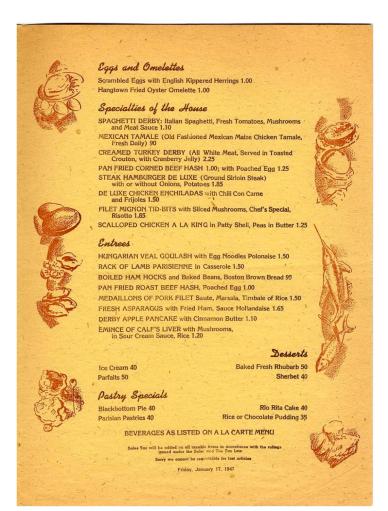


## In summary...

## Old school information layout was symmetrical

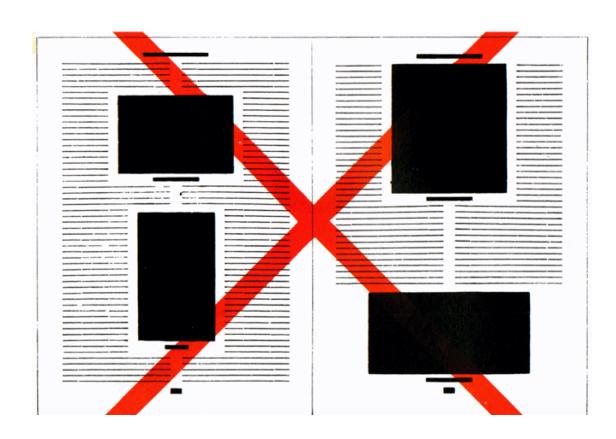


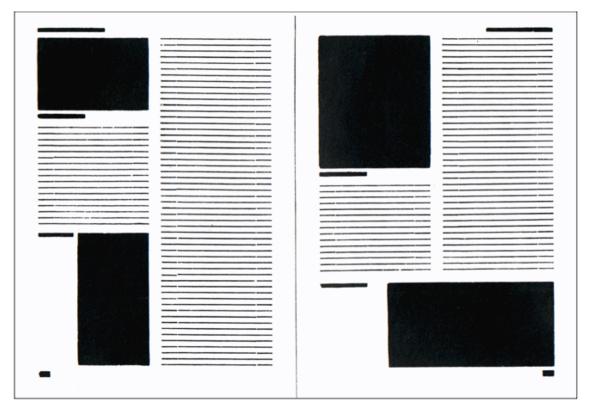




# The Bauhaus School of Design helped give rise to asymmetric grid layouts.



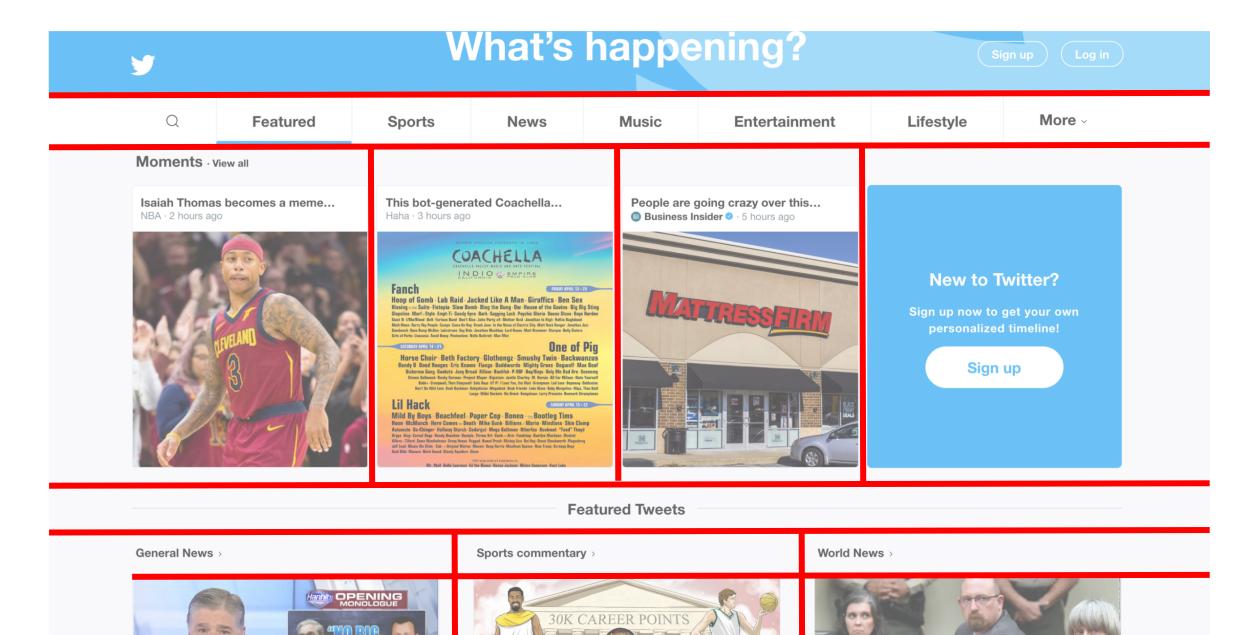




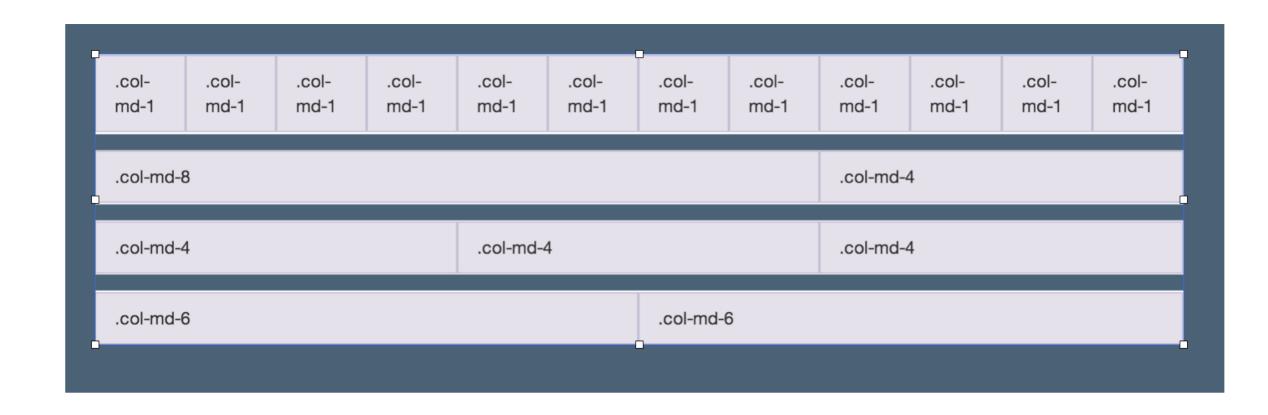
# **Grids** layouts help you convey importance with grouping, location, size, and whitespace.

Lorem ipsum dolor sit amet Lorem Consectetur adipisicing elit, sed do eiusmod tempor incididunt ut **Ipsum** Dolor labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo Sit Amet consequat. Duis aute irure dolor in reprehenderit in voluptate velit Consectetur esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Lorem ipsum dolor sit amet Consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Lorem ipsum dolor sit amet
Consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo conseguat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

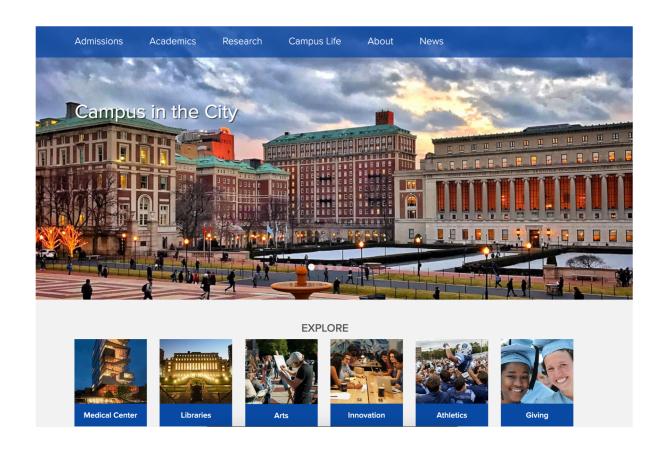
#### Twitter Bootstrap is a widely used grid system.



#### Bootstrap allocates width into twelve columns



# Responsive design helps you specify the layout for different sized screens

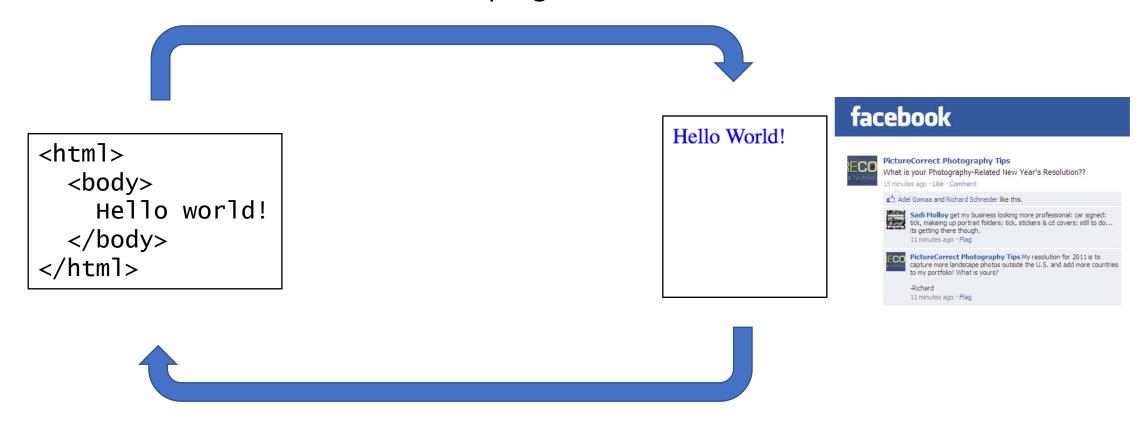






## Iterative Style of Programming helps you build a mental model of your code.

What's the **smallest** unit of progress I can make?



#### Homework 2: Grids and Layout

- Homework 2 due Wednesday @4pm on Courseworks
- Fill out participation form online

2 JANUARY 27
Participation Form
Information Design
Homework 1 due @ 4pm
Homework 2 out
Participation Form

