

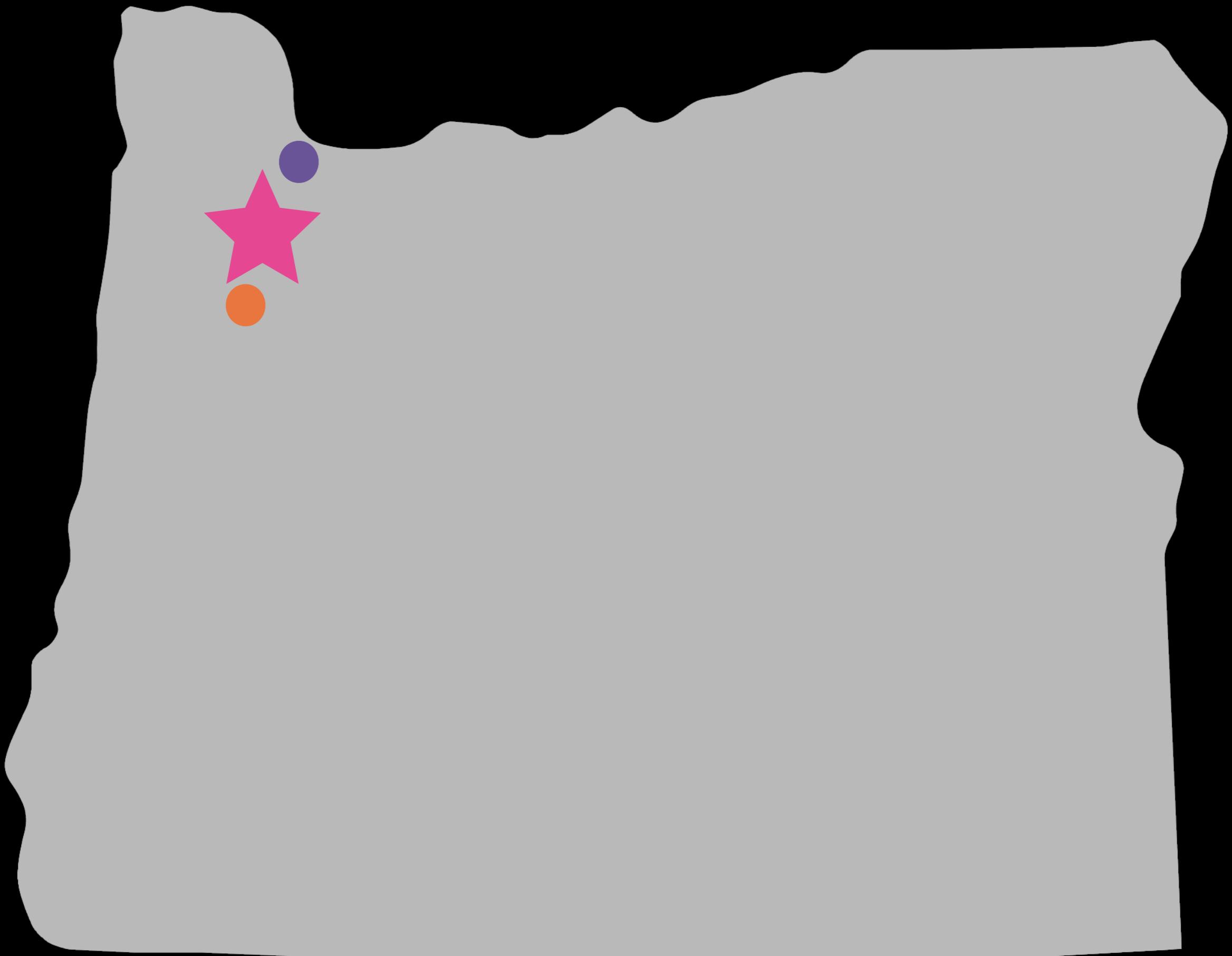


**Hi! I'm Katie**

✨ @glitteringkatie ✨



where the elm am I?







new  
city

$\approx$

new  
code  
base

- 
1. walk down the block
  2. turn the corner
  3. get lost (and find your way)
  4. go with locals
  5. get to know your neighborhood
  6. get to know your neighborhood's place

# **1. walk down the block**

2. turn the corner
3. get lost (and find your way)
4. go with locals
5. get to know your neighborhood
6. get to know your neighborhood's place

1. walk down the block

**2. turn the corner**

3. get lost (and find your way)

4. go with locals

5. get to know your  
neighborhood

6. get to know your  
neighborhood's place

1. walk down the block
2. turn the corner

### **3. get lost (and find your way)**

4. go with locals
5. get to know your neighborhood
6. get to know your neighborhood's place

1. walk down the block
2. turn the corner
3. get lost (and find your way)

## **4. go with locals**

5. get to know your neighborhood
6. get to know your neighborhood's place

1. walk down the block
2. turn the corner
3. get lost (and find your way)
4. go with locals
- 5. get to know your neighborhood**
6. get to know your neighborhood's place

1. walk down the block
2. turn the corner
3. get lost (and find your way)
4. go with locals
5. get to know your neighborhood
- 6. get to know your neighborhood's place**



# **spoiler alert**

you can orient yourself in  
code this same way



wait, katie, what do you  
mean by orientation?



# real life

can you get to where you're  
trying to go?



code

can you do what you're  
trying to do?



building your cognitive  
map allows you to be  
flexible



so when do you need  
to orient yourself?



new code base!  
unfamiliar section!  
it's been a while!  
learning purposes!



I had a new code  
base and a purpose.





# Welcome! Select your interests below, and we'll use them to create your first assignment.

Please add more interests!

Continue

## TV Shows and Movies



Crazy Rich Asians



Black Panther



DC Legends of Tomorrow



Supergirl



The Flash



Arrow



High School Musical



Hamilton: An American Musical



Teenage Mutant Ninja Turtles



Hidden Figures

# **1. walk down the block**

2. turn the corner
3. get lost (and find your way)
4. go with locals
5. get to know your neighborhood
6. get to know your neighborhood's place

Welcome! Select your interests below, and we'll use them to create your first assignment.

Please add more interests!

Continue

TV Shows and Movies



Crazy Rich Asians



Black Panther



DC Legends of Tomorrow



Supergirl



The Flash



Arrow



High School Musical



Hamilton: An American Musical



Teenage Mutant Ninja Turtles



Hidden Figures



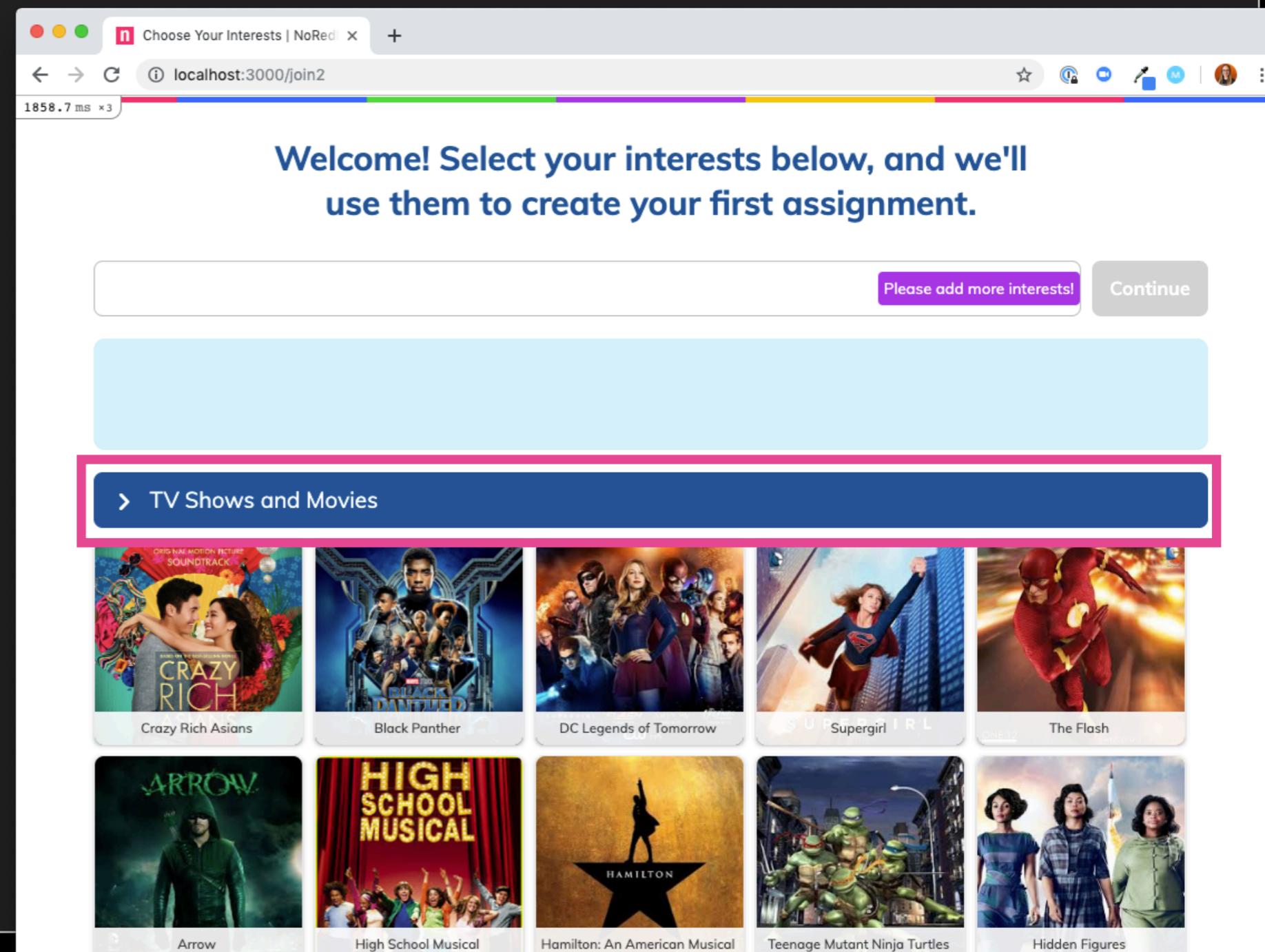
```
module Page.Join.Main exposing (main)

import Html exposing (text)

main =
    text "Welcome! Select your interests below, and we'll use them to create your first assignment."
```

```
main : Nri.Program.Program Model ()  
main =  
  Nri.Program.program  
  { moduleName = "Page.Join.Main"  
    ...  
    , init = init  
    , view = view  
    , update =  
      \_ msg model →  
        ( model, Cmd.none )  
  }
```

```
init : Env → () → ( Model, Cmd () )
init _ flags =
( [ { name = "Sports" } ], Cmd.none )
```



```
view : Env → Model → Html ()  
view _ model =  
  div []  
    [ text "Same welcome text as before"  
    , div [] (model  
      ▷ List.map  
        (\interest → text interest.name)  
    )  
    ]
```

1. walk down the block

**2. turn the corner**

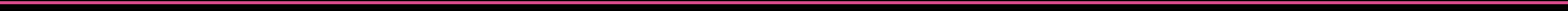
3. get lost (and find your way)

4. go with locals

5. get to know your  
neighborhood

6. get to know your  
neighborhood's place

expand on the model & refactor  
(v easy)



```
type alias Model =  
List Interest
```



```
type alias Model =  
GraphqlData  
(List ViewableInterestCategory)
```



Choose Your Interests | NoRed

Zamboni/interest tiles/0 by bro



localhost:3000/join2



1858.7 ms x3

# Welcome! Select your interests below, and we'll use them to create your first assignment.



Please add more interests!

Continue



## > TV Shows and Movies



Crazy Rich Asians



Black Panther



DC Legends of Tomorrow



Supergirl



The Flash



Arrow



High School Musical



Hamilton: An American Musical



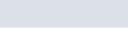
Teenage Mutant Ninja Turtles



Hidden Figures



```
type alias Model =  
    GraphqlData  
    (List ViewableInterestCategory)  
  
type alias ViewableInterestCategory =  
{ interest : InterestCategory  
, isOpen : Bool  
}  
  
type alias InterestCategory =  
{ id : Scalar.Id  
, name : String  
, visibleChildren : Maybe  
    (List SelectableInterest)  
}
```

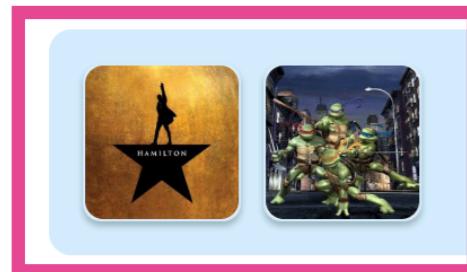


Welcome! Select your interests below, and we'll use them to create your first assignment.



Please add more interests!

Continue



> TV Shows and Movies



Crazy Rich Asians



Black Panther



DC Legends of Tomorrow



Supergirl



The Flash



Arrow



High School Musical



Hamilton: An American Musical



Teenage Mutant Ninja Turtles



Hidden Figures

```
type alias Model =  
{ interests : GraphqlData  
(List ViewableInterestCategory)  
, selectedInterests : Set  
( Scalar.Id, String )  
-- String is a photo url  
}
```



http://www.usenix.org/events/awards/awards.html

1. walk down the block
2. turn the corner

### **3. get lost (and find your way)**

4. go with locals
5. get to know your neighborhood
6. get to know your neighborhood's place

# elm-graphql



- Watched an internal demo, on our GraphQL client generator
- Searched for `SelfReview.selection`
- Found it!

```
pageQuery : Int →  
  SelectionSet SelfReview RootQuery  
pageQuery selfReviewId =  
  Query.selection identity  
  ▷ with  
    ( Query.selfReview  
      { id = Scalar.Id  
        (String.toInt selfReviewId)  
      }  
      SelfReview.selection  
    )
```

- Replaced their stuff with my stuff
- Looked at docs
- Fought compiler
- Looked at docs more
- Fought compiler more
- Eventually won 💪

```
pageQuery : Int →  
  SelectionSet SelfReview RootQuery  
pageQuery selfReviewId =  
Query.selection identity  
  ▷ with  
    ( Query.selfReview  
      { id = Scalar.Id  
        (String.toInt selfReviewId)  
      }  
      SelfReview.selection  
    )
```



```
interestsQuery : SelectionSet
(List Interest)
RootQuery
interestsQuery =
Query.selection identity
    ▷ with
        (Query.interests
            (Interest.selection Interest
                ▷ with Interest.id
                ▷ with Interest.name
                ▷ with Interest.parentId
                ▷ with Interest.photo
            )
        )
    )
```

```
{  
  interests {  
    id  
    name  
    parentId  
    photo  
  }  
}
```



```
interestsQuery : SelectionSet  
(List Interest)  
RootQuery  
interestsQuery =  
Query.selection identity
```



{

}



```
interestsQuery : SelectionSet
(List Interest)
RootQuery
interestsQuery =
Query.selection identity
▷ with
(Query.interests
```



```
{  
  interests  
}
```

```
interestsQuery : SelectionSet
(List Interest)
RootQuery
interestsQuery =
Query.selection identity
▷ with
(Query.interests
(Interest.selection Interest
```



{

interests {

}

}

```
interestsQuery : SelectionSet
(List Interest)
RootQuery
interestsQuery =
Query.selection identity
    ▷ with
        (Query.interests
            (Interest.selection Interest
                ▷ with Interest.id
```



```
{  
  interests {  
    id  
  }  
}
```



```
interestsQuery : SelectionSet
(List Interest)
RootQuery
interestsQuery =
Query.selection identity
    ▷ with
        (Query.interests
            (Interest.selection Interest
                ▷ with Interest.id
                ▷ with Interest.name
                ▷ with Interest.parentId
                ▷ with Interest.photo
            )
        )
    )
```

```
{  
  interests {  
    id  
    name  
    parentId  
    photo  
  }  
}
```

# elm-graphql



1. walk down the block
2. turn the corner
3. get lost (and find your way)

## **4. go with locals**

5. get to know your neighborhood
6. get to know your neighborhood's place





```
import Sort.Set as Set  
exposing (Set)
```





```
type alias Model =  
{ interests : GraphqlData  
(List ViewableInterestCategory)  
, selectedInterests : Set  
( Scalar.Id, String )  
-- String is a photo url  
}
```

```
type alias ViewableInterestCategory =  
{ interest : InterestCategory  
, isOpen : Bool  
}
```

```
type alias InterestCategory =  
{ id : Scalar.Id  
, name : String  
, visibleChildren : Maybe  
(List SelectableInterest)  
}
```



Choose Your Interests | NoRed

Zamboni/interest tiles/0 by bro



localhost:3000/join2



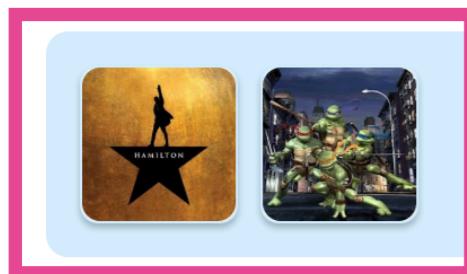
1858.7 ms x3

# Welcome! Select your interests below, and we'll use them to create your first assignment.



Please add more interests!

Continue



## > TV Shows and Movies



Crazy Rich Asians



Black Panther



DC Legends of Tomorrow



Supergirl



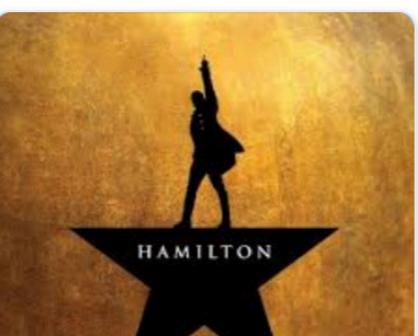
The Flash



Arrow



High School Musical



Hamilton: An American Musical



Teenage Mutant Ninja Turtles



Hidden Figures

```
type alias Model =  
{ interests : GraphqlData  
(List ViewableInterestCategory)  
, selectedInterests : Set  
( Scalar.Id, String )  
-- String is a photo url  
}
```

if the user had to add a  
sticky-note, that's a bad  
experience



```
type alias Model =  
{ interests : GraphqlData  
(List ViewableInterestCategory)  
, selectedInterests : Set  
( Scalar.Id, String )  
-- String is a photo url  
}
```



```
type alias Model =  
{ interests : GraphqlData Interests  
, selectedInterests : List Scalar.Id  
}
```

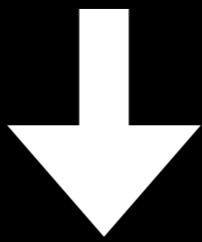


```
type alias Model =  
{ interests : GraphqlData Interests  
, selectedInterests : List Scalar.Id  
}
```

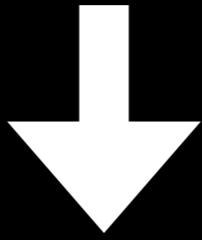
```
type alias Interests =  
{ selectableInterestsById : Dict  
  Scalar.Id  
  SelectableInterest  
, interestCategoriesById : Dict  
  Scalar.Id  
  InterestCategory  
}
```

1. walk down the block
2. turn the corner
3. get lost (and find your way)
4. go with locals
- 5. get to know your neighborhood**
6. get to know your neighborhood's place

basic program



1000+ line program



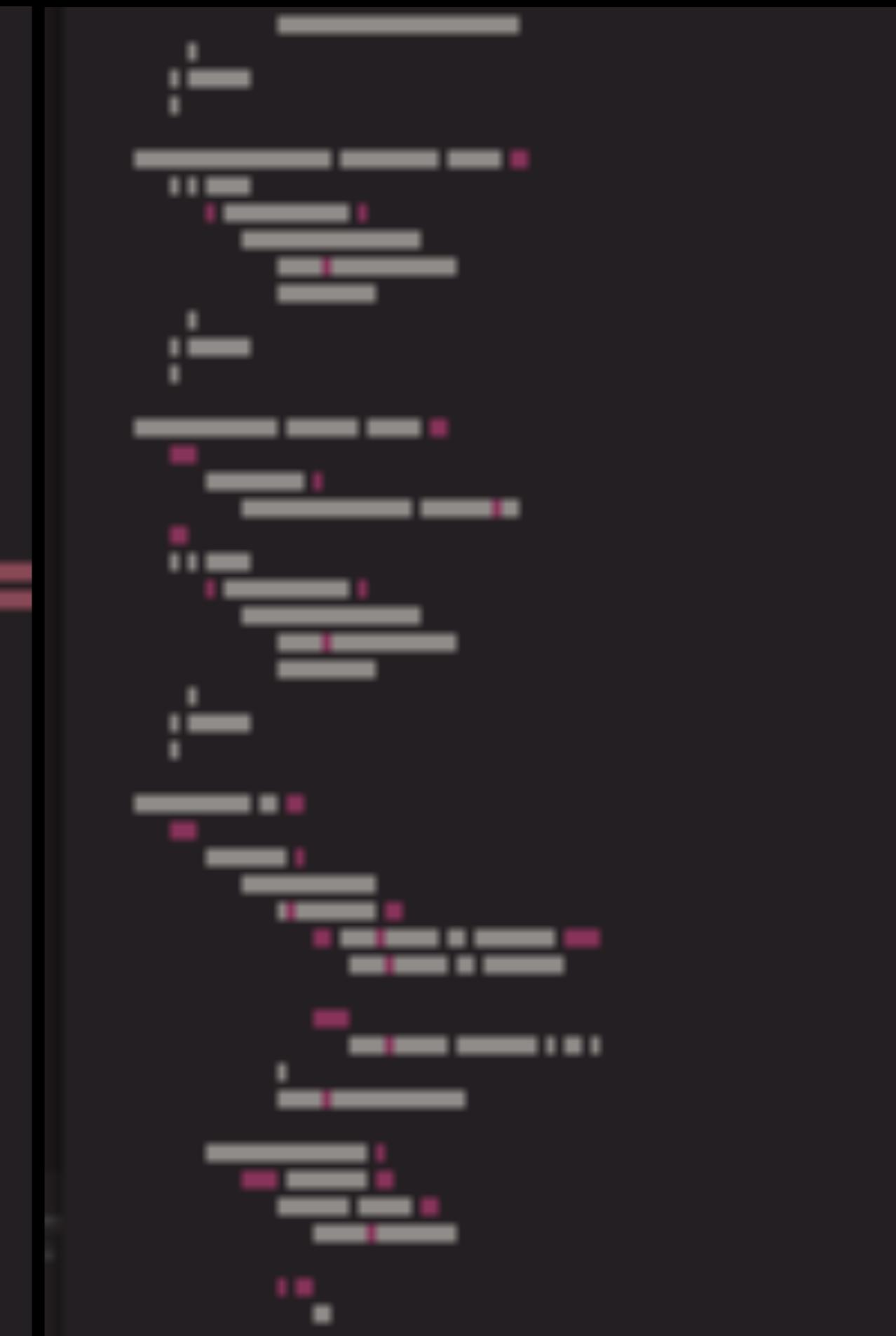
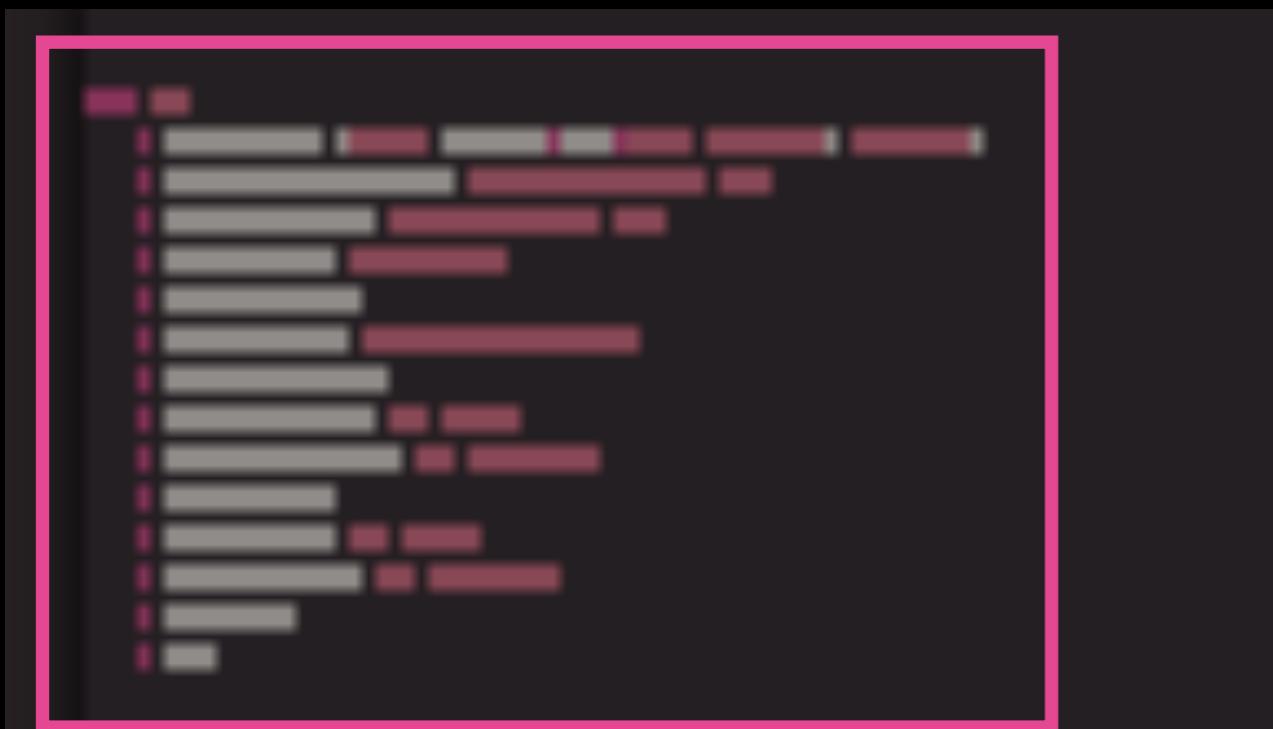
Main, Model, View, Update















learning the shapes  
to expect



1. walk down the block
2. turn the corner
3. get lost (and find your way)
4. go with locals
5. get to know your neighborhood
- 6. get to know your neighborhood's place**

ui/src/Page/Join

ui/Page/Join  
what I am



ui/Page/Join  
**who I am**





**plot twist!**



**flip it and reverse it**  
(ti esrever dna ti pilf)

- 
1. walk down the block
  2. turn the corner
  3. get lost (and find your way)
  4. go with locals
  5. get to know your neighborhood
  6. get to know your neighborhood's place

- 
1. walk down the block
  2. turn the corner
  3. get lost (and find your way)
  4. go with locals
  5. get to know your neighborhood
  6. get to know your neighborhood's place

# 6. get to know your neighborhood's place

5. get to know your neighborhood
4. go with locals
3. get lost (and find your way)
2. turn the corner
1. walk down the block

# ui/Page/Admin/ Announcements



6. get to know your neighborhood's place

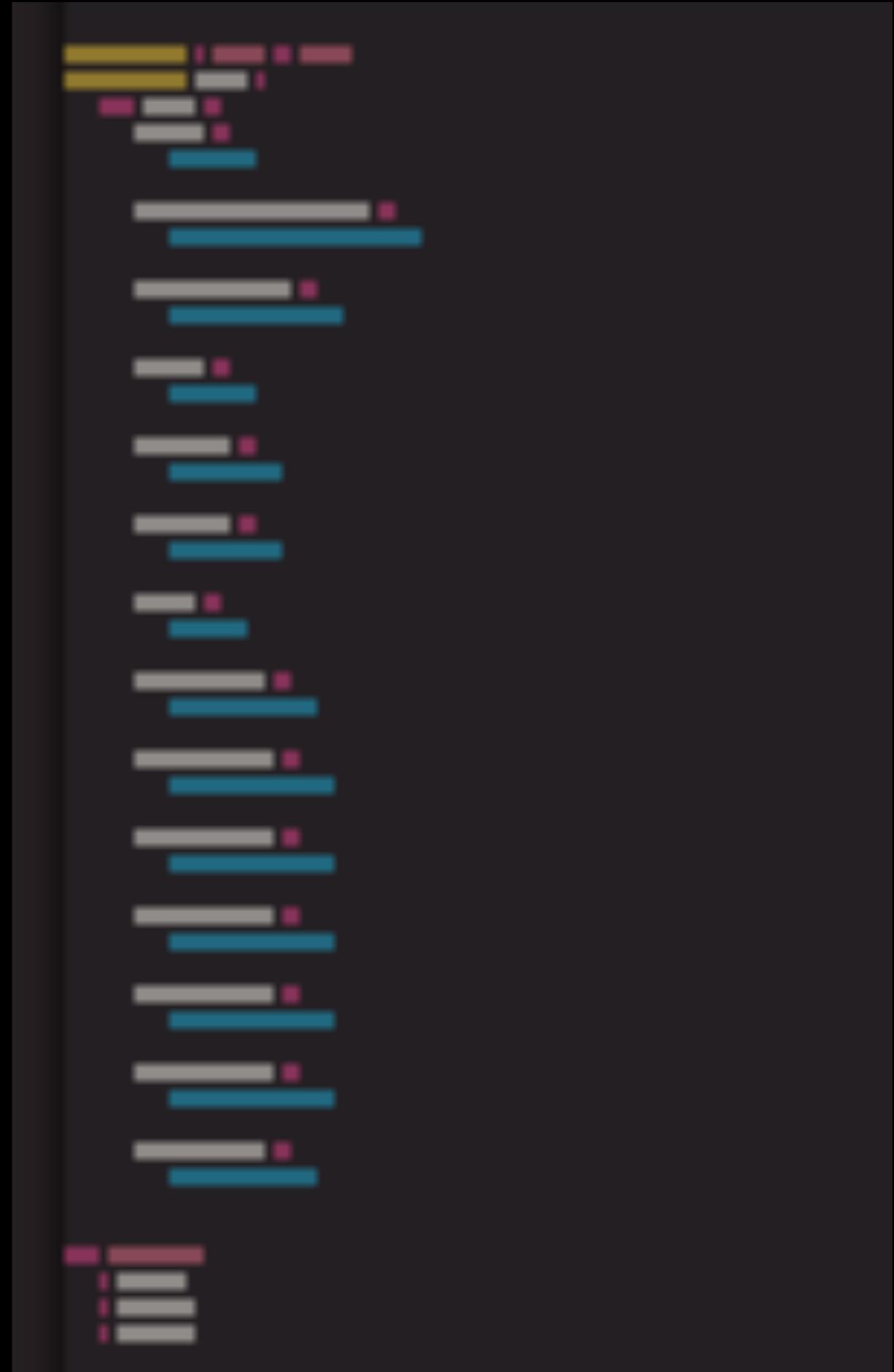
## **5. get to know your neighborhood**

4. go with locals

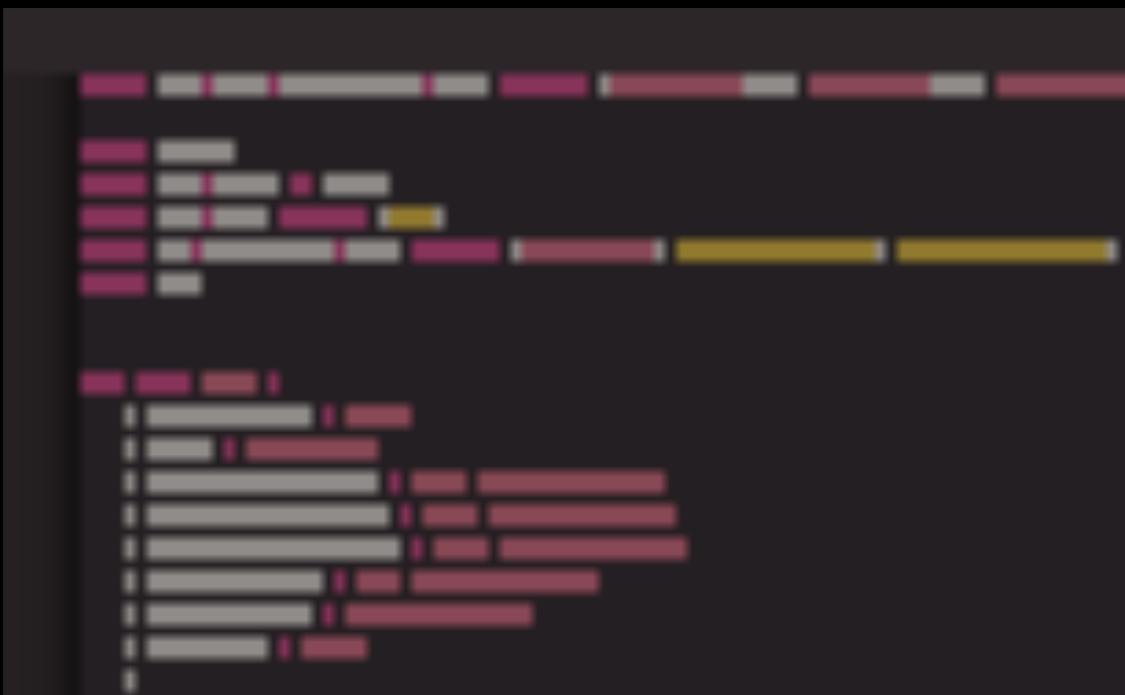
3. get lost (and find your way)

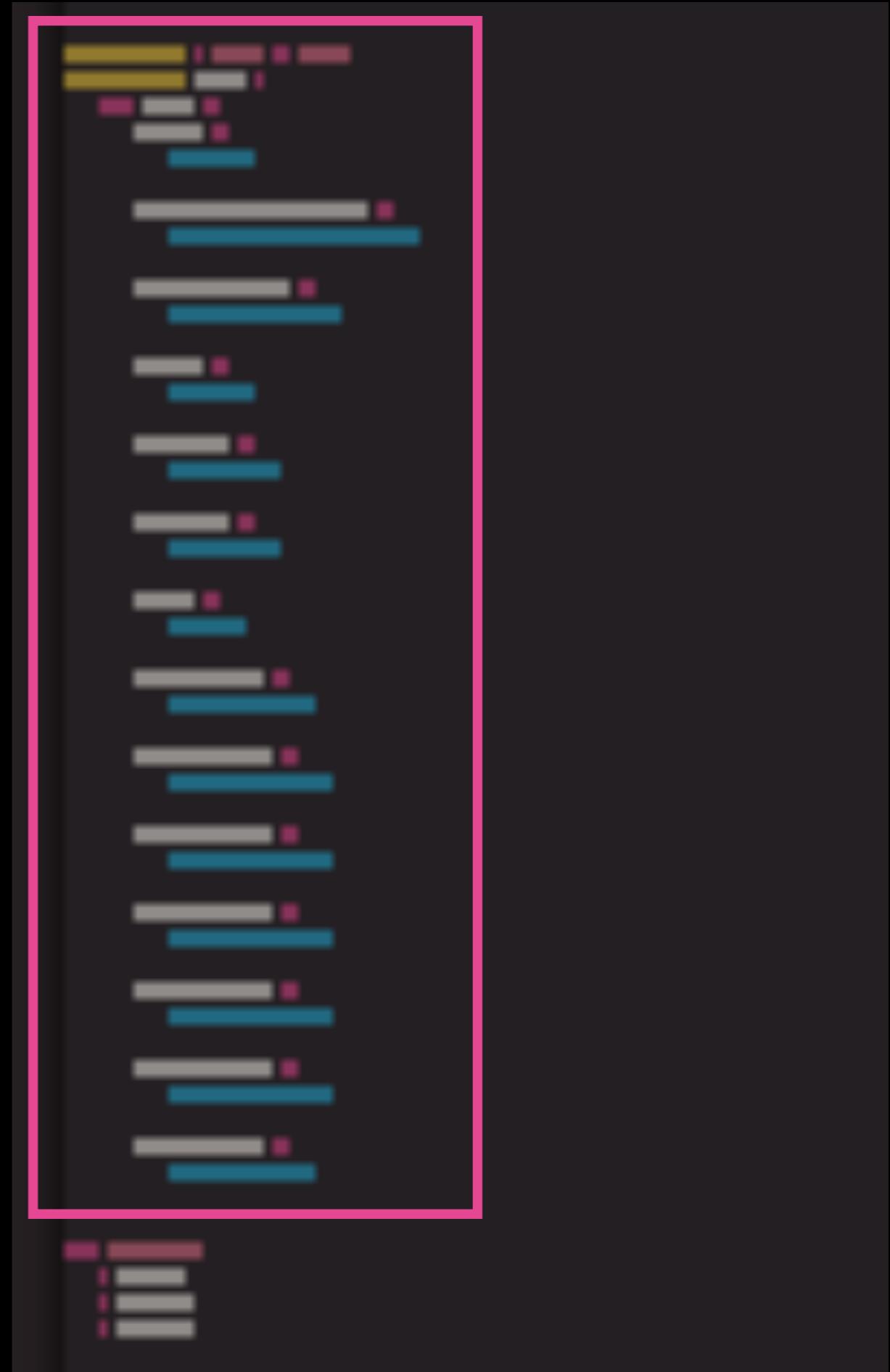
2. turn the corner

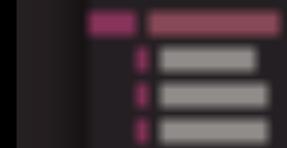
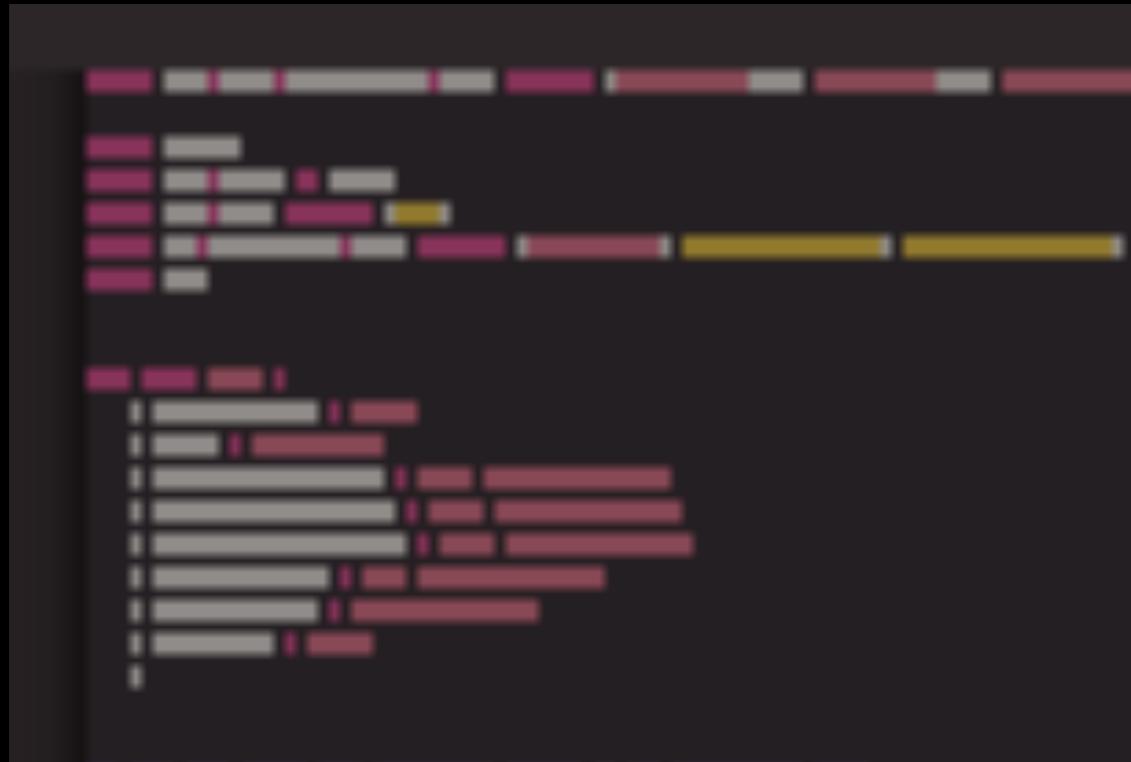
1. walk down the block



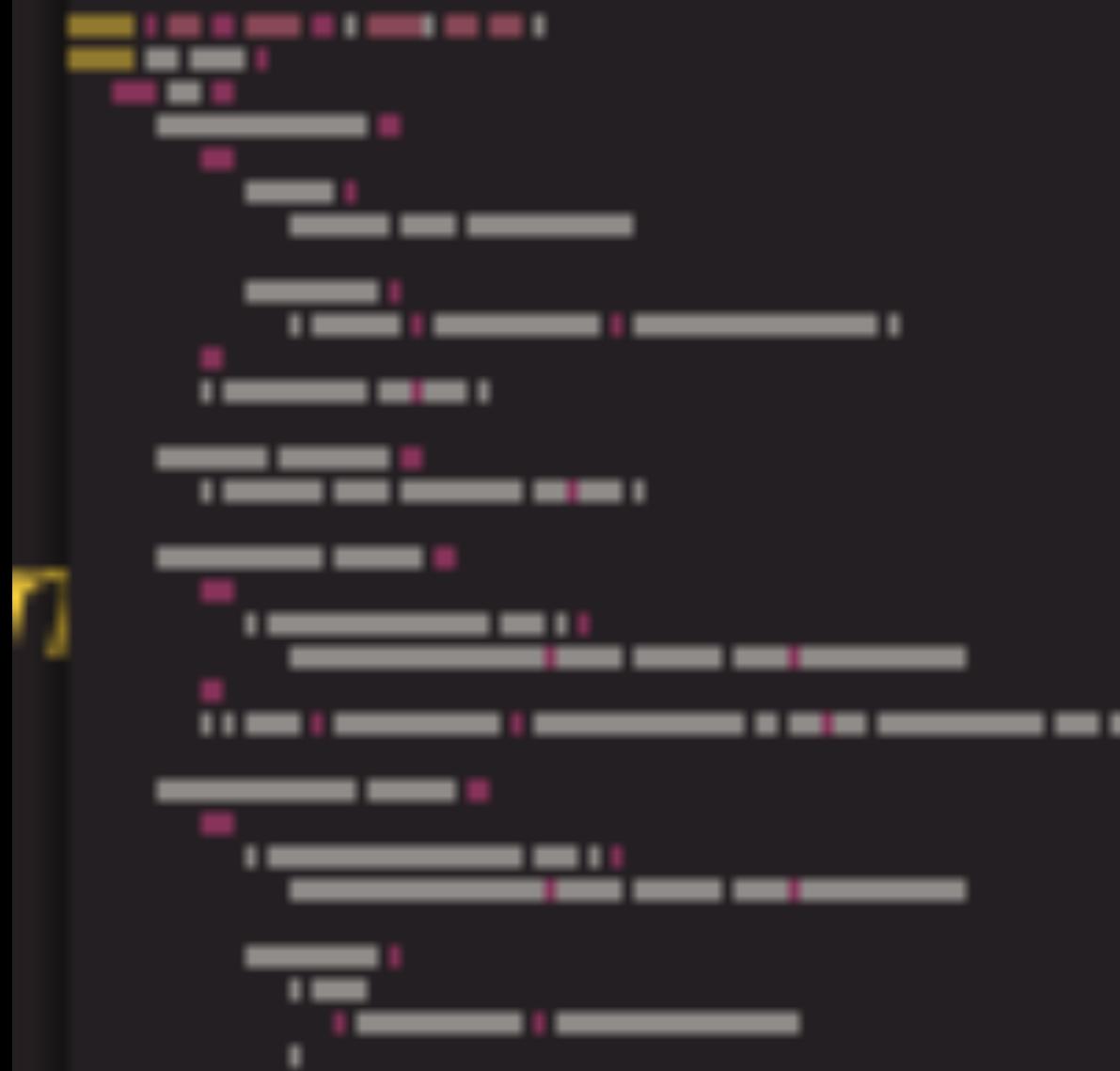
















establishing expectations  
of what might be  
interesting



turns out this was another  
person's first elm app!



6. get to know your neighborhood's place
5. get to know your neighborhood

## **4. go with locals**

3. get lost (and find your way)
2. turn the corner
1. walk down the block





(with the tests)





```
describe "announcementInEditMode"  
  
test "should find the first  
announcement in edit mode"  
test "nothing when not in edit mode"
```

6. get to know your neighborhood's place
5. get to know your neighborhood
4. go with locals

### **3. get lost (and find your way)**

2. turn the corner
1. walk down the block

# **break things!**

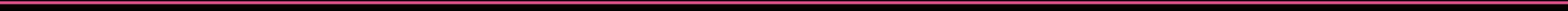
did they break like you expected?  
did they break the tests you  
expected?

6. get to know your neighborhood's place
5. get to know your neighborhood
4. go with locals
3. get lost (and find your way)

## **2. turn the corner**

1. walk down the block

start solidifying your  
understanding by making  
assumptions & breaking them





---

- 1. walk down the block**
2. turn the corner
3. get lost (and find your way)
4. go with locals
5. get to know your neighborhood
6. get to know your neighborhood's place

what was unique in  
this part of the code?

what patterns did you  
see reinforced?



go



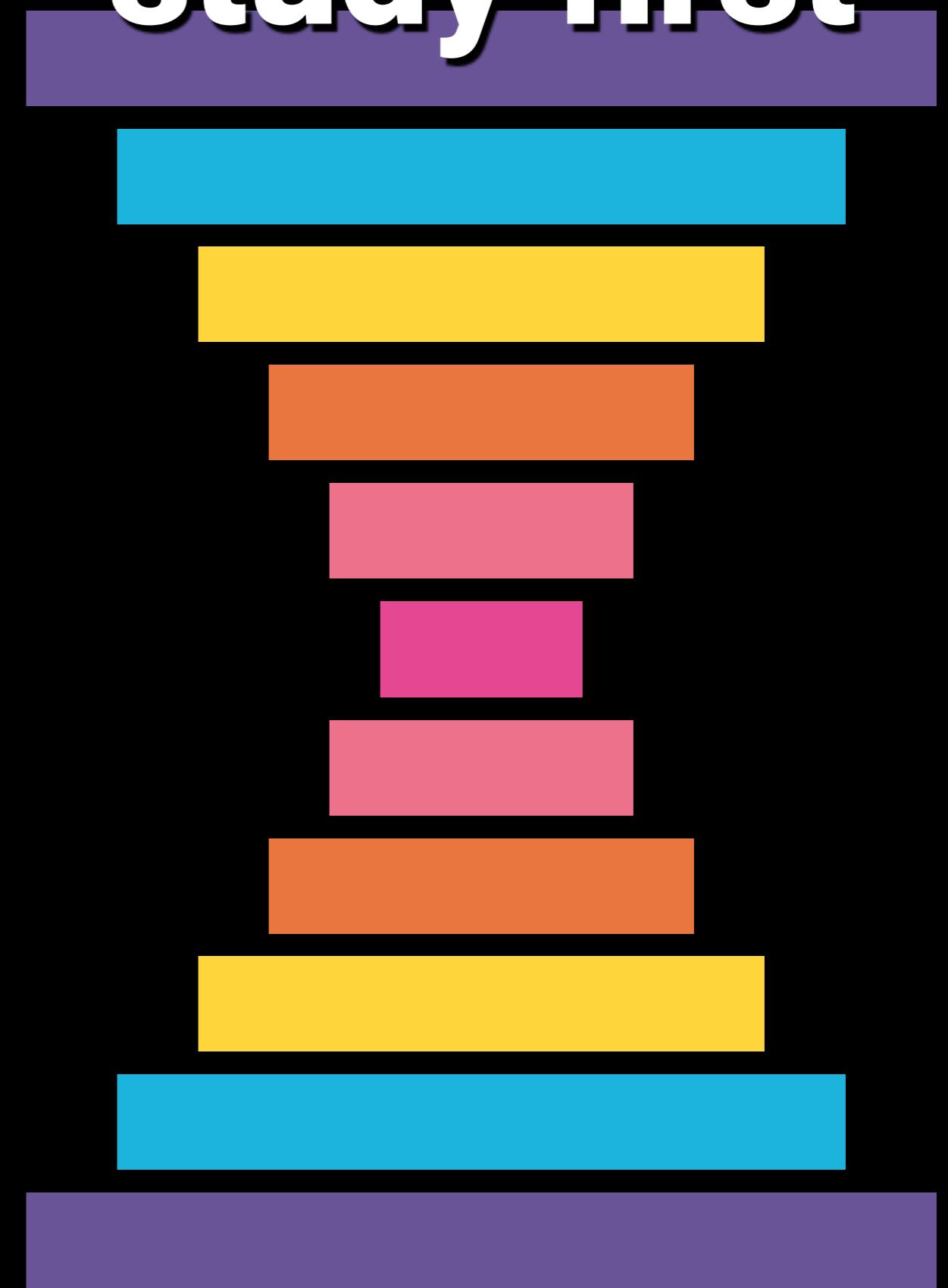
go

study first



google has maps  
github has code

# study first



go

study first



# explore mindfully.

Take in as much input as you can through as many methods as you can and **make predictions as you go.**



**know where the elm  
you are**



# thank you!

✨ @glitteringkatie ✨