lab2.2

AUTHOR
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```
library(tidyverse)
```

```
── Attaching core tidyverse packages ──────────────────────── tidyverse 2.0.0 ──
✔ dplyr     1.1.2     ✔ readr     2.1.4
✔ forcats   1.0.0     ✔ stringr   1.5.0
✔ ggplot2   3.4.3     ✔ tibble    3.2.1
✔ lubridate 1.9.2     ✔ tidyr     1.3.0
✔ purrr     1.0.2
── Conflicts ────────────────────────────────────────── tidyverse_conflicts() ──
✖ dplyr::filter() masks stats::filter()
✖ dplyr::lag()    masks stats::lag()
ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

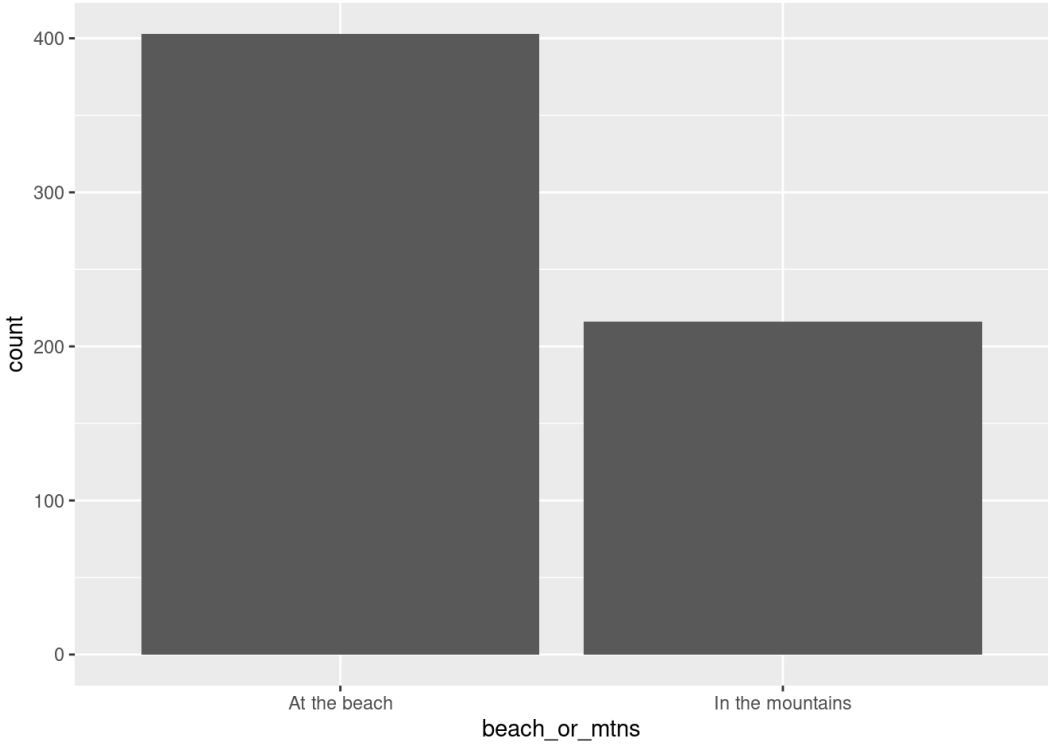
```
library(stat20data)
glimpse(class_survey)
```

```
Rows: 619
Columns: 31
$ year                  <chr> "I'm in my second year.", "This is my first sem…
$ major                 <chr> "Economics", "Intended Economics major", "Econo…
$ coding_exp_words      <chr> "None.", "None.", "Some. I've had to write code…
$ coding_exp_scale      <dbl> 1, 1, 7, 6, 2, 5, 4, 8, 1, 5, 1, 6, 5, 7, 4, 1,…
$ calculus              <chr> "Yes", "Yes", "Yes", "Yes", "Yes", "Yes", "Yes"…
$ favorite_thing_cal    <chr> "My favorite thing about Cal is that everyone i…
$ body_piercings        <dbl> 2, 2, 0, 0, 0, 0, 3, 0, 0, 0, 0, 2, 0, 0, 2, 0,…
$ pets_plus_siblings    <chr> "I have 1 pet and 4 siblings.", "1 sibling. 0 p…
$ diet                  <chr> "I eat both plants and animals.", "I eat both p…
$ title                 <chr> "Entrepreneur", "Social Scientist", "Entreprene…
```

```
$ study_place            <chr> "My favorite place to study on
campus is Chou H…
$ olympic_sport          <chr> "Snowboarding", "I am not
excited to watch the …
$ season                 <chr> "Summer", "Summer", "Winter",
"Fall", "Spring",…
$ beach_or_mtns          <chr> "At the beach", "At the beach",
"In the mountai…
$ coffee_or_tea          <chr> "Tea", "Tea", "Tea", "Coffee",
"I don't drink e…
$ best_boba_shop         <chr> "The best boba tea shop in
Berkeley is Taiwanes…
$ tech                   <dbl> 1, 3, 7, 7, 7, 7, 5, 4, 4, 3,
7, 4, 4, 8, 5, 6,…
$ climate_change         <dbl> 10, 6, 6, 6, 7, 8, 7, 8, 7, 7,
8, 4, 6, 6, 10, …
$ crypto                 <dbl> 10, 8, 3, 4, 6, 3, 2, 3, 8, 3,
7, 4, 2, 6, 7, 6…
$ new_COVID_variant      <dbl> 0.25000, 0.10000, 0.00000,
0.20000, 0.90000, 0.…
$ fire_alarm             <dbl> 1.00, 0.50, 1.00, 0.05, 0.60,
0.50, 0.20, 1.00,…
$ are_hotdogs_sandwiches <chr> "No", "Yes", "Yes", "No",
"Yes", "Yes", "Yes", …
$ horse_duck             <chr> "Duck-sized horse", "Duck-sized
horse", "Duck-s…
$ dog_pants              <chr> "Right image", "Right image",
"Right image", "R…
$ coding_langauges       <chr> "I haven't coded before.", "I
haven't coded bef…
$ artist                 <lgl> FALSE, FALSE, FALSE, FALSE,
FALSE, FALSE, FALSE…
$ humanist               <lgl> FALSE, FALSE, FALSE, FALSE,
FALSE, FALSE, FALSE…
$ entrepreneur           <lgl> TRUE, FALSE, TRUE, TRUE, FALSE,
FALSE, FALSE, T…
$ social_scientist       <lgl> FALSE, TRUE, FALSE, FALSE,
FALSE, FALSE, FALSE,…
$ natural_scientist      <lgl> FALSE, FALSE, FALSE, FALSE,
TRUE, FALSE, FALSE,…
$ comp_scientist         <lgl> FALSE, FALSE, FALSE, FALSE,
FALSE, TRUE, TRUE, …
```

Question 1

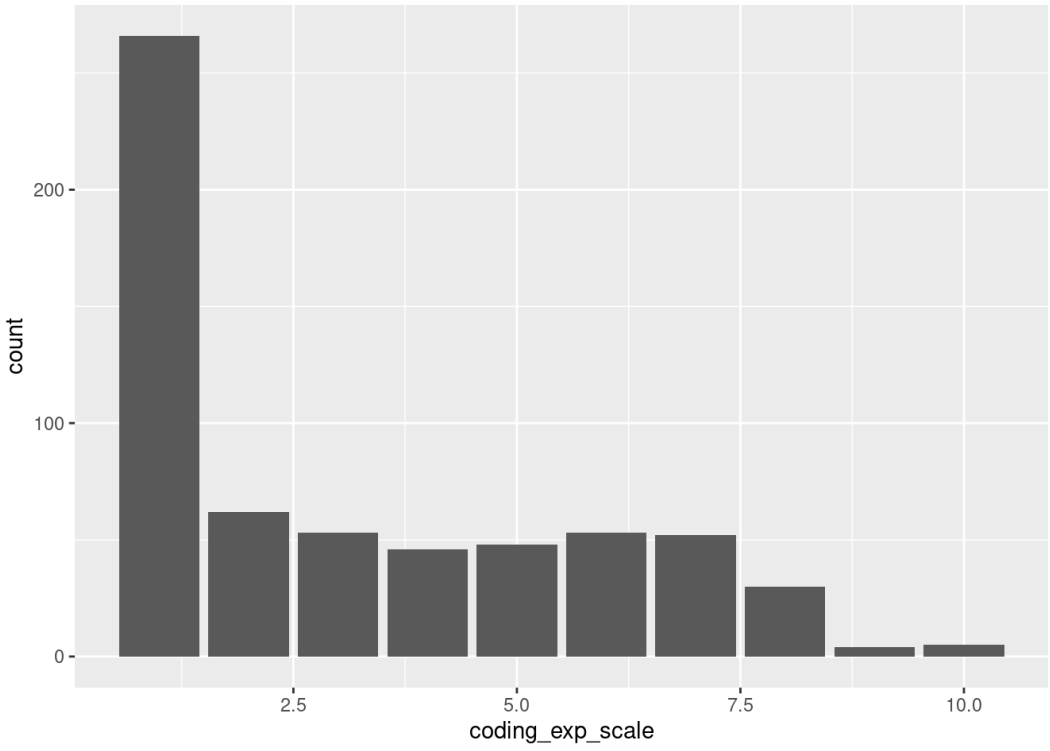
```
ggplot(class_survey, aes(x= beach_or_mtns)) +
geom_bar()
```



Students prefer to spend time at the beach. The mode is the preference of being at the beach.

Question 2

```
ggplot(class_survey, aes(x= coding_exp_scale)) +
geom_bar()
```



```
  class_survey %>%
  summarise(mean_exp = mean(coding_exp_scale), median_exp = mec
```

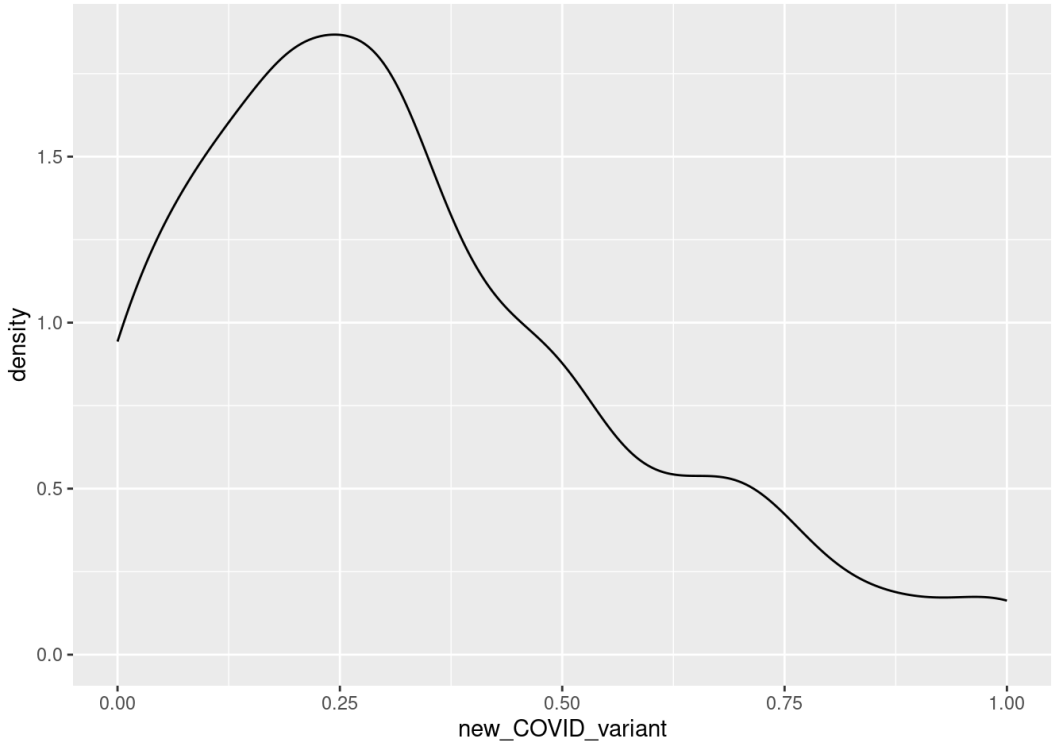
```
# A tibble: 1 × 3
  mean_exp median_exp mode_exp
     <dbl>      <dbl> <chr>
1     3.20          2 numeric
```

Coding experience varies between students. However most have 1 to 2 coding experiences. The mean coding experience is 3.2 . The Median experience has 2. The mode coding experience is 1.

Question 3

```
ggplot(class_survey, aes(x= new_COVID_variant)) +
  geom_density() + xlim(0,1)
```

```
Warning: Removed 8 rows containing non-finite values
(`stat_density()`).
```




```
class_survey %>%
  summarise(mean_var = mean(new_COVID_variant), median_var = me
```

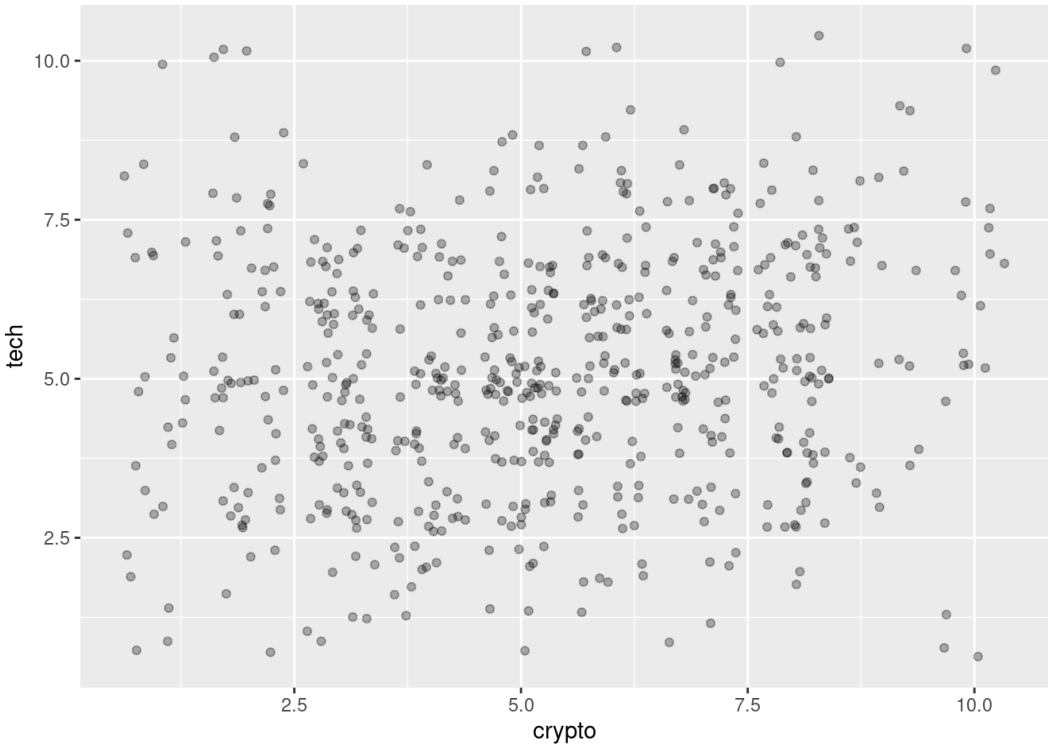
```
# A tibble: 1 × 2
```

```
  mean_var median_var
     <dbl>      <dbl>
1    0.368        0.3
```

The students' perceptions of the chance that there is a new COVID variant that disrupts instruction in Fall 2022 is left skewed. The average is 0.37 and the median is 0.3. The mode appears to be 0.25. Since some people inputted some values that were out of range I specified it as 0 to 1.

Question 4

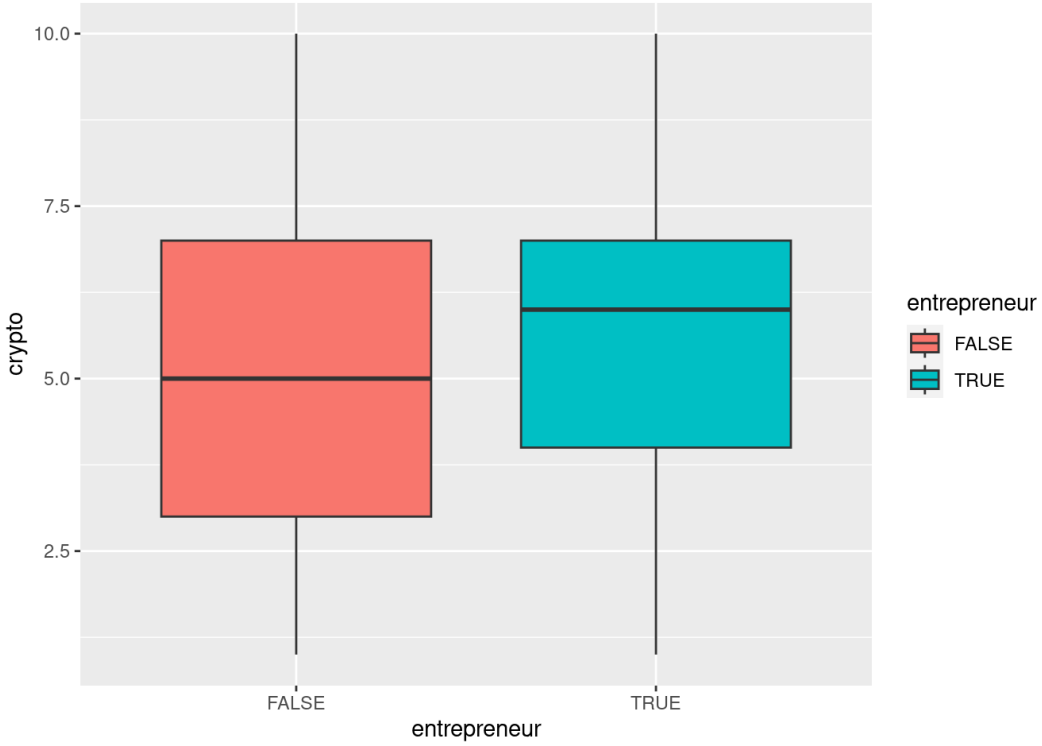
```
class_survey %>%
  ggplot(aes(x = crypto , y = tech)) +
  geom_jitter(alpha = 0.3)
```



The relationship between students' optimism for cryptocurrency and their skepticism of the effect of technology on interpersonal relationships is postive with students have similair opinions on both issues (ie scoring similarily for both answers as seen in the darker dotted areas)

Question 5

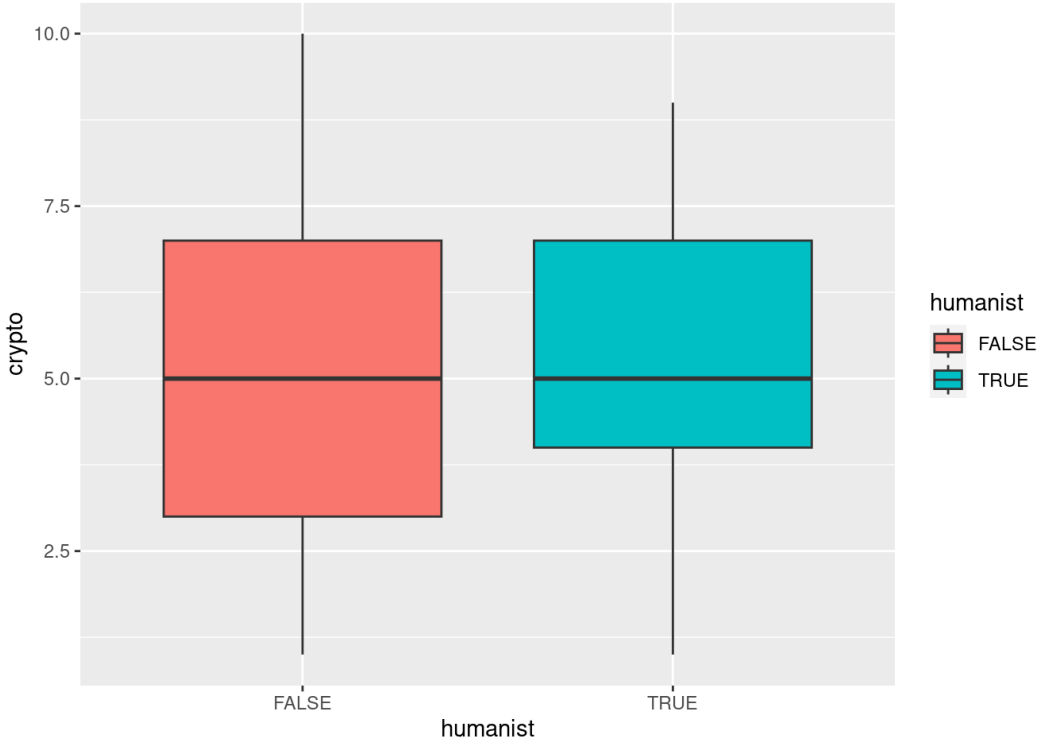
```
class_survey %>%
  ggplot(aes(x = entrepreneur , y = crypto , fill = entrepreneu
  geom_boxplot()
```



There's no strong association with cryptocurrency optimism and entrepruner however there's a small coorellation between a higher optimism for crypto and entrepuner.

Question 6

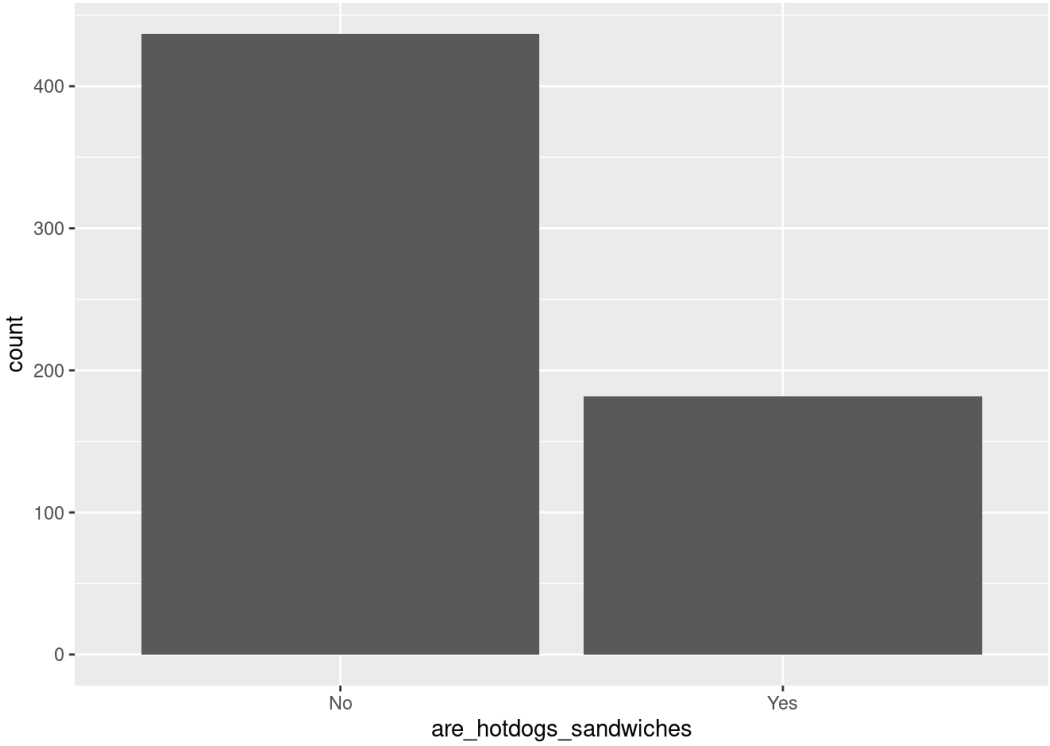
```
class_survey %>%
  ggplot(aes(x = humanist , y = crypto , fill = humanist)) +
  geom_boxplot()
```



There is a strong association between students most identifying as a humanist and their optimism for cryptocurrency. Most students who don't identify as humanists have a high optimism for cryptocurrency.

Question 7

```
ggplot(class_survey, aes(x= are_hotdogs_sandwiches)) +
geom_bar()
```



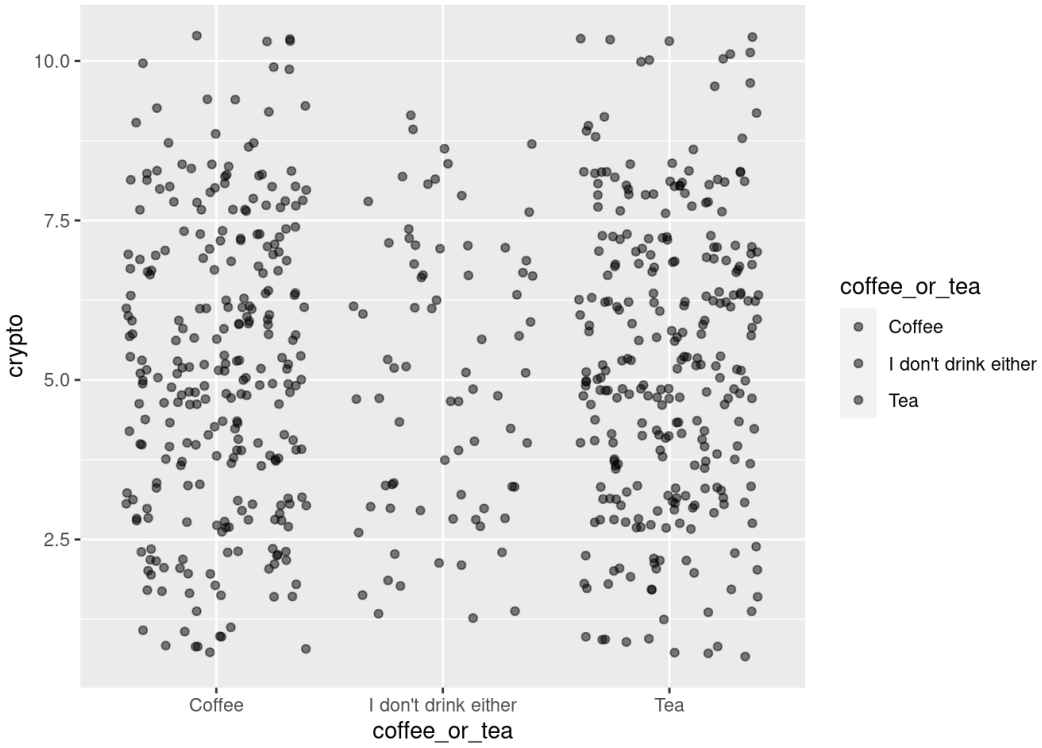
Do students think hotdogs are sandwiches?

The majority of studnts think hotdogs are not sandwiches.

Question 8

```
subset_data <- class_survey %>%
  select(coffee_or_tea, crypto)

ggplot(subset_data, aes(x = coffee_or_tea, y = crypto, fill=cof
  geom_jitter(alpha=0.5)
```



There is no strong association between a preference for tea and opinion on cryptocurrency.