```
library(testthat)
library(ggplot2)
```

Warning message:
"replacing previous import 'vctrs::data_frame' by 'tibble::data_frame' when loading 'dplyr'"

Question 1. Assign `x` to the smallest prime number.
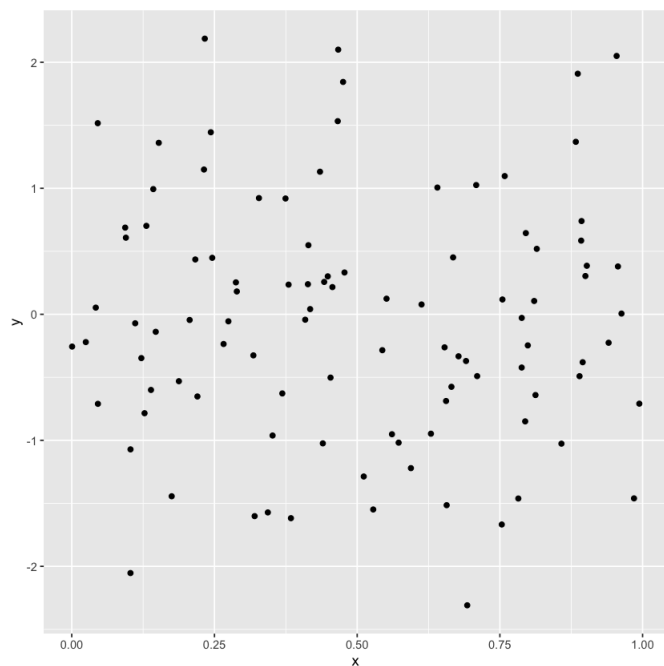
In [2]:

```
x <- 2 # SOLUTION
```

In [ ]:

```
. = ottr::check("tests/q1.R")
```

Question 2. Visualize the answer

In [7]:

```
set.seed(123) # SEED
# BEGIN SOLUTION NO PROMPT
x <- runif(100)
y <- rnorm(100)
data = data.frame(x, y)
ggplot(data, aes(x=x, y=y)) +
    geom_point()
# END SOLUTION
. = " # BEGIN PROMPT
plt.plot(...);
"; # END PROMPT
```


This cell is not part of a question.

In [8]:

```
y = 3
```

Question 3. Define `square` and assign `nine` to 3 squared.

In [9]:

```
square = function(x) {
    y = x * x # SOLUTION
    return(y) # SOLUTION
}

nine = square(3) # SOLUTION
```

In [ ]:

```
. = ottr::check("tests/q3.R")
```

Question 4. What does equilateral mean?

Type your answer here, replacing this text.

SOLUTION: Having equal side lengths.

In [13]:

```
# this isn't part of a question
# it's here to make sure that we get a MD cell above to close the export
# of question 4
```

Question 5. Approximate the area and circumference of a circle with radius 3.

In [14]:

```
pi = 3.14
if (TRUE) {
    # BEGIN SOLUTION
    radius = 3
    area = radius * pi * pi
    # END SOLUTION
    print(paste0('A circle with radius', radius, 'has area', area))
}

circumference = function(r) {
    # BEGIN SOLUTION NO PROMPT
    return(2 * pi * r)
    # END SOLUTION
    " # BEGIN PROMPT
    # Next, define a circumference function.
    "; # END PROMPT
}
```

```
[1] "A circle with radius3has area29.5788"
```

In [15]:

```
# This question has no tests.
```

Question 6. Write something

This question has a custom prompt below, so that prompt should be in the output. It also has no solution!

Write your thing here.

Question 7: What is the answer?

Type your answer here, replacing this text.

> **SOLUTION**: 42

Question 8: Test intercell seeding by generating 10 random $N(4, 2)$ numbers.

In [16]:

```r
set.seed(42) # SEED
z = rnorm(10, 4, 2) # SOLUTION
z
```

6.74191689429334 · 2.87060365720782 · 4.72625682267468 · 5.26572520992208 · 4.808536646282 · 3.78775096781703 · 7.02304399487788 · 3.8106819231738 · 8.03684742775408 · 3.87457180189516

In [ ]:

```r
. = ottr::check("tests/q8.R")
```

You're done!

Submission

Make sure you have run all cells in your notebook in order before running the cell below, so that all images/graphs appear in the output. The cell below will generate a zip file for you to submit. **Please save before exporting!**

In [ ]:

```r
# Save your notebook first, then run this cell to export your submission.
ottr::export("r-example.ipynb")
```