Quiz 2: R basis

Problems

Exercise 1.

Recall given the radius of a circle r, we can calculate the perimeter by using formula $C = 2\pi r$, and the area by using formula $A = \pi r^2$. Assume $r = 3$. Calculate the value of perimeter and area.

Exercise 2.

As the natural state, Arkansas has 7 national parks and 52 state parks. How many national or state parks in total at Arkansas?
- Why the code below doesn't work?

```
num_natl_parks = 'seven'
num_state_parks = 52
num_total_parks = num_natl_parks + num_state_parks
```

- Please modify the code above.

Exercise 3.

a. Use function `length()` to find how many values in the vector a defined below?
b. How many values are greater than 1000?
c. What is the percentage of values in the vector greater than 1000?

```
a = c(275, 2168.36, 2931.5, 275.5, 399.93, 2, 545.128, 209.76, 400, 50.1499, 150, 1595.978)
```

Exercise 4.

Complete the following tasks.
a. Install and load the package `nycflights13`.
b. Load the data set `flights`.
c. Find the variable names of `flights`.
d. Find the dimension of `flights`.
e. Display the first 3 rows of `flights`.

Exercise 5.

Complete the following tasks.

    a. Please download the `titanic_train.csv` dataset and import the data set to R. Save it as `Titanic`.

    b. Display the first 5 rows of `Titanic`.

    c. Find the average number of siblings / spouses aboard the Titanic (variable name `SibSp`)

    d. Find the average of `age`. Why `mean(Titanic$age)` doesn't work? Please add `na.rm=TRUE` in `mean()` and retry. Please explain the behavior.