

# Swirl Tutorial 1

總分 1/5 ?

Refer to the website <http://swirlstats.com> to install R, RStudio, and the 'swirl' package for R

Please complete the first 4 parts of the Swirl tutorial on 'R Programming':

- 1: Basic Building Blocks
- 2: Workspace and Files
- 3: Sequences of Numbers
- 4: Vectors

Give BRIEF answers to the questions below while you do the tutorial. Please base your answers on the tutorial material only.

School ID \*

107070004

✗ Why do we want to use a programming language as a calculator or analytics tool? \* .../1

With the ability of querying the data on our own by programming language without using a blackbox tool or an engineer will be more self-sufficient for analysis.

i.e. R is great for building statistical models and conducting numerical analysis.

✗ What is a "data structure"? \* .../1

The simplest and most common data structure in R is the vector.

A data structure is a collection of data values, the relationships among them, and the functions or operations that can be applied to the data.



✗ What's the difference between 'rep' and 'seq'? \*

.../1

'rep' : The function will create "replicate elements" of vectors.

i.e. `rep(0, times = 40)`

`rep(c(0, 1, 2), times = 10)`

`rep(c(0, 1, 2), each = 10)`

'seq' : The function can generate any sequence of real numbers.

i.e. `seq(0, 10, by=0.5)`

✗ What does it mean when values get 'coerced'? \*

.../1

When values get 'coerced', it means that R will try to coerce values to another type so that the function will work.

i.e. for `paste(LETTERS, 1:4, sep = "-")`, the numeric vector `1:4` gets 'coerced' into a character vector by the `paste()` function.

✓ Can a vector store a collection of vectors? \*

1/1

(Try it in R and see!)

- ☐ Yes - we can have vectors within vectors!
- ☒ No - the result is just one big vector of numbers/characters



[OPTIONAL] Why do you think a collection of values made using the `c()` function is called a "vector"?

(i.e., why not call it a list or an array like other languages?)

An atomic vector contains exactly one data type, whereas a list may contain multiple data types.

P.S.

An array is a vector with one or more dimensions.

這份表單是在 Institute of Service Science 中建立。



Google 表單

