MiCM Workshop Series - R Programming Beyond the Basics

Efficient Coding and Computing

- Yi Lian

- August 13, 2019

Link to workshop material [https://github.com/ly129/MiCM (https://github.com/ly129/MiCM)](https://github.com/ly129/MiCM)

Outline

Morning

1. **An overview of efficiency**

   - General rules
   - R-specific rules
   - Time your program in R
     - Illustrations of the rules
2. **Efficient coding**

   - Powerful functions in R

     ```
     - aggregate(), by(), apply() family
     - ifelse(), cut() and split()
     ```

   - Write our own functions in R

     ```
     - function()
     ```

   - Examples and exercises
     - Categorization, conditional operations, etc..

Afternoon

1. **Efficient computing**

   - Parallel computing

     ```
     - Package 'parallel'
     ```