

1. Intro

Ice-breaking: digital currency, smart contract, vending machine, and Amazon
Questions about tools (Jupyternotebook, colab, github, and others)

2. Goal: learn how to apply computational thinking

- step 0: intro (5 min)
- step 1: learn the basics (10 min)
- step 2: apply it with small examples (20 min)
- step 3: apply it with a real dataset (20 min)
- step 4: discuss future directions (5 min)

3. Google Colab intro: <https://colab.research.google.com/>

- Free CPU
- Free Storage
- Free GPU
- With Google Drive and GitHub

4. (concept) Python key concepts (<https://github.com/Jikhan-Jeong/IDA>)

Basic operations
Iteration
Conditional statement
Function

5. (example demo) Creating our vending machine function

6. (example activities) In-class activity for modifying our vending machine function

7. (example discussion) How to improve our vending machine function

8. (real data example): Amazon Online Review for Wine (amazon_wine.csv)

9. (real data example demo): Applying iteration and function

10. (real data example activity): Applying all we have learn today

11. (real data example discussion): For computational thinking and future ideas

12. Share resources for future studies:

- Yelp product review dataset: <https://www.yelp.com/dataset>
- Amazon product review dataset: <http://jmcauley.ucsd.edu/data/amazon/links.html>
- NYTimes API (book and movie reviews)
- Amazon review analysis paper: <https://ieeexplore.ieee.org/abstract/document/9590517>

13. Q&A