Group Presentation

Each group will be given **15 ~ 20 mins** to explain about your algorithm. You must use some form of **visual aids** during your presentation. (google slides) Code implementation is also required in **Swift**. (However you can use pseudocode during the presentation.)

Topics

1. Find the smallest/largest *M elements* in a stream of *N items*.

- Your algorithm should not exceed the following complexity.
  - Time: **O(N lg M)**
  - Space: **O(M)**
- You can think of a stream of items as **stdin**.
- You are allowed to use any data structures / algorithms of your choice.

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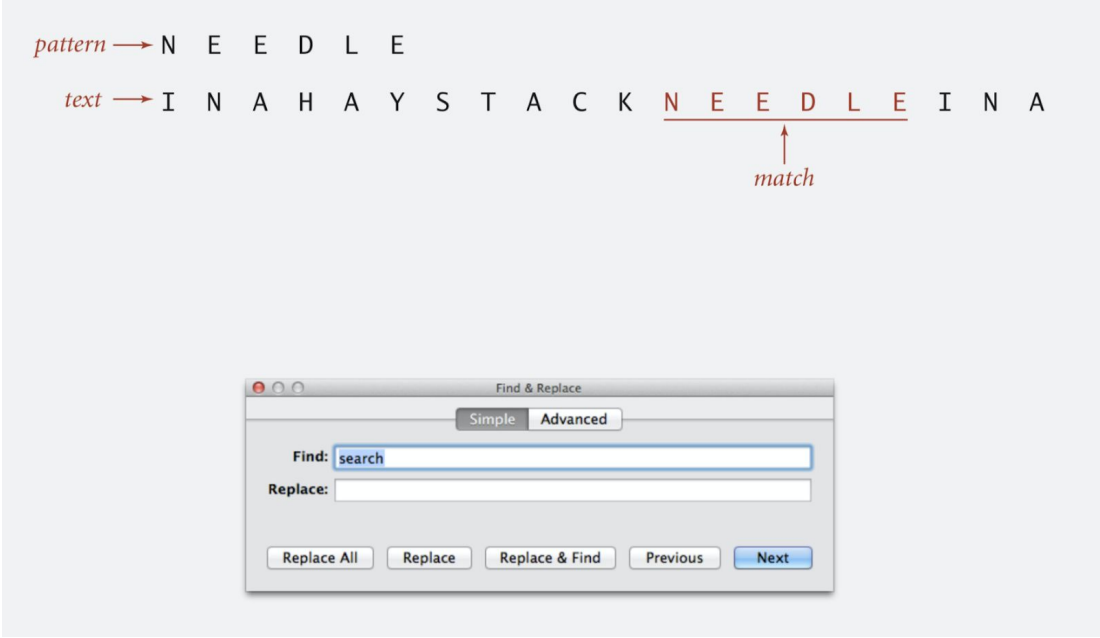
2. Find the substring pattern of length *M* in a text of length *N*. (Assume that N >= M) (Return the index of the starting index)



- Your algorithm should not exceed the following complexity.
  - Time: Linear time **O(N)** or **O(N + M)**
    - Can **NOT** be O(N * M)
  - Space: O(M)
    - **Optional:** You can try to get the starting index without backing up the current string you're processing.
- You are allowed to use any data structures / algorithms of your choice.