Assignment 2

Algorithms & Complexity (CIS 522-01)

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1. Time-series data mining

1.1 Problem description

In this problem we will have a sequence of events, and we want to find out if this sequence of events is a subsequence of other longer sequence.

For example, we will have a sequence of events as follows:

```
buy Yahoo, buy eBay, buy Yahoo, buy Oracle
```

```
buy Amazon, buy Yahoo, buy eBay, buy Yahoo, buy Yahoo, buy Oracle
```

The goal is to quickly detect if S' is a subsequence of S.

We formulate this problem this way:

Given two sequence of events, S' of length m and S of length n each containing an event possibly more than once, decide in time $O(m+n)$ if S' is a subsequence of S.

1.2 Proposed solution

1.3 Pseudo code

1.4 Example

Here we should prove that our algorithm is correct too.

1.5 Time complexity

2. Competition scheduling

1.1 Problem description

1.2 Proposed solution

1.3 Pseudocode

1.4 Example (Implementation)

Here we should prove that our algorithm is correct too.

1.5 Time complexity