

## EF234405 Design & Analysis of Algorithms (B)

# Quiz 1

Starting date:	20 March 2024
Deadline:	27 March 2024, 23:59 WIB. <b>Penalty: 0.15% of grade/minute of tardiness.</b>
Exam type:	Open, Individual Project
Send to:	MM Irfan Subakti <yifana@gmail.com> CC to Michael Ariel Manihuruk <michaelariel8@gmail.com>, Tsabita Putri Ramadhany <bitharamadhany@gmail.com>, Mashita Dewi <mashitaad@gmail.com> & Adam Haidar Azizi <adamhadaizi2002@gmail.com> with the subject: <b>EF234405_DAA(B)_Q1_StudentID_Name</b>
File type and format:	A <b>full report</b> of the title, problem description, problem abstraction, solution and source code; in <b>PDF</b> format
Filename format:	<b>EF234405_DAA(B)_Q1_StudentID_Name.PDF</b>

### Instruction

Please do these steps as in the following.

1. Two problems that need to be solved are the following.

- (1) SPOJ Classical 9034 - Help Tohu  
<https://www.spoj.com/problems/TOHU>  
Time complexity:  $O(1)$
- (2) SPOJ Classical 14138 - Amazing Factor Sequence  
<https://www.spoj.com/problems/AFS>  
Time complexity:  $O(\sqrt{n})$

2. For each problem above, please explain in detail the following sections.

- The title of the problem ( 2%)
- Problem description ( 3%)
- Problem abstraction (10%)
- Solution (75%)
  - Details of the strategy of the algorithm: observations and theory references
  - Any relevant concept(s) used for solving the algorithm's design
  - Design of algorithm in the pseudocode representation
- Source code for SPOJ (10%)

3. If you don't have an account on SPOJ.com, please sign up at **www.spoj.com**. Make a proper account's name and location (*country*: Indonesia; *city*, e.g., Surabaya). Most importantly, please don't forget to put "Institut Teknologi Sepuluh Nopember" for the *institution's* name.

4. Please also write in your report, your SPOJ account's **name & password**, as in the following.

SPOJ's account's name: <write\_your\_account\_name\_here>  
SPOJ's account's password: <write\_your\_account\_password\_here>

5. Once you have a SPOJ account, please solve these problems as in the following. Submit your solution's code to SPOJ and make sure it's **accepted by SPOJ** for each problem. You have to include the evidence of the submission and the "accepted" verdict in your report.
6. To avoid plagiarism/cheating, every student needs to pledge and declare, then she/he must submit her/his **signed pledge and declaration** as in the following. Failing to do so will result in getting a 0 (zero) grade. Attach the **scanned/photo** of your *declaration* to your report.

"By the name of Allah (God) Almighty, herewith I pledge and truly declare that I have solved quiz 1 by myself, didn't do any cheating by any means, didn't do any plagiarism, and didn't accept anybody's help by any means. I am going to accept all of the consequences by any means if it has proven that I have done any cheating and/or plagiarism."

[Place, e.g., Surabaya], [date, e.g., 27 March 2024]

<Signed>

[Full name, e.g., Rianti Linuwih Dewi]

[StudentID, e.g., 5025221xxx]

7. Have a lovely day, guys! Good luck! 😊