

# **CSE221: Algorithms**

## **Lab 01**

### **Summer 2025**

#### **[Google Form] CSE221 Lab Policy: (Action required)**

- The lab policy file can be found here - [Link](#)
- Please complete the lab policy acknowledgement form - [Link](#)

#### **[Google Form] Codeforces Account Information: (Action required)**

- Open an account at <https://codeforces.com/>
- Please submit your codeforces details here - [Link](#)

#### **Sample Quiz Checker**

- Can be found here - [Link](#)

#### **Assignment 01 Links:**

##### **codeforces Invitation Link:**

<https://codeforces.com/contestInvitation/b5b69cd9b167aca36494ecf7392a40e567b3ea0f>

Alternative Link: <https://codeforces.com/contests/618601>

[The alternative link will **only work** after you have successfully registered using the first link.]

**Deadline:** Jul 5, 2025 11:59 PM

**No submission can be considered after the deadline ends.**

#### **Learning Outcome of this Lab:**

- Understand the basics of Online Judge platforms.
- Become familiar with standard Input/Output (I/O) formats used in Online judge
- Learn about common judge verdicts, including Accepted (AC), Wrong Answer (WA), Time Limit Exceeded (TLE), and Runtime Error (RE).

- For a **1-second** time limit, most OJs allow approximately  **$10^8$  operations**.
- For python select PyPy over Python if available, as PyPy is faster. However, PyPy consumes more memory than Python.
- Review  $O(n^2)$  sorting algorithms which have already been covered in the previous courses such as Bubble Sort, Selection Sort, and Insertion Sort.
  - Learn to sort with multiple parameter
  - Understand the use case of stable sort
- Explore Fast I/O techniques (**self-study**):
  - **Python:** Using `sys.stdin` for faster input handling.
  - **C++:** Using `ios_base::sync_with_stdio(false);` and `cin.tie(nullptr)`
  - **Java:** Using `BufferedReader` for efficient input reading.
  - The fast i/o can reduce program execution time on Online Judge platforms.
  - Fast I/O Example: [Python](#), [C++](#), [Java](#) [click Expand to view the code snippet]