

The rules of the exam are as follows:

- When asked for a runtime in big-O notation, give the tightest and simplest possible bound you can. If your algorithm is $O(n)$ and also $O(n^2)$, just say it is $O(n)$. If it is $O(2n)$, it is also $O(n)$, so omit the factor of 2. And so on.
- Please be sure to write your name at the top of the page. You may wish to do so on the top of each page just in case.
- You should read all the problems as soon as possible; problems are not necessarily in order of difficulty.
- Please solve ALL the problems. Keep your answers clear and concise.
- Please clearly mark all the answers to all your questions **and make sure that they are where they are expected to be**, and keep answers separated from scratch work. Scratch work will not be graded.
- Please write legibly. If we cannot read it, we cannot grade it.
- Absolutely no devices. If you need to use the bathroom during the exam, please leave it with the instructor.

Good luck! Have fun! You got this!!!

Front row	2nd row	3rd row	Back row
Adham Khafaga	Deniz Ozcakir	Kayson Shaikh	Owen Dinsmore
Alex Noor	Donghwan Kwon	Kevin Villeda De Leon	Parin Shaik
Ameelya Yeung	Eline Leske	Liam Ben-Zvi	Philip Hoang
Angelo Amato	Emalie Zhitomirsky	Lu Lai	Rishven K Pravin
Azalea Rohr	Eric Kim	Marcus Hau	Shawn Lau
Beau Lin	Francis Seely	Melaku Mohammed	Sijia Zhan
Brenton Mac	James Fourie	Menahil Bakhat	Taimur Ahmad
Brian Capozza	Jay Patel	Mia O'Halloran	Tsung-Yi Tsai
Callum Neher	Jiahao Liu	Nicholas David	Vincent Sun
Chanel Thorpe	Jonathan Tsang	Nikita Salkar	Xinyi Wang
Christian Abrams	Joseph Allen	Nora Amer	Yulian Gogov
Darren Leong	Joshua Lee	Olivia Dodds	
	Joshua Nahm	Om Italiya	
	Kaushik Reddy	Onat Ergin	