

CS2026 ASSIGNMENT 02

(Due Date: March 13, 2026)

Instructions: Answer all questions and compile your answers in a WORD or PDF file. Then, you have to submit the answer file to the Gmail account (csformgtncchu@gmail.com) before the due date.

Please be reminded that (i) the format of the email heading, (ii) the format of the file name and (iii) the exact time of the 'due date' have to follow firmly to the instructions specified in the document 'Class Schedule and Code of Conduct'. If you fail to do any one of it, your assignment submission will be ignored.

Question 1

In a computer experiment, 10^6 repeated runs have been conducted. In each run, the computer program will give either $N - 1$, N and $N + 1$, where N is an unknown positive integer. Now, the 10^6 results are save in a data file. It is known that N is the correct answer and the number of incorrect answers is small, say fewer than 100. Now, you are given this data file.

- (a) State the algorithm (in text) how do you find out the number of runs the experiment gives incorrect answer?
- (b) State the algorithm (in text) how do you find out in which runs the experiment gives incorrect answer?

Question 2

Alan Turing is named as the father of computer.

- (a) State the contribution of Alan Turing in the history of computer.
- (b) State the contribution of Alan Turing in World War II.
- (c) What if the Turing text?

Question 3

- (a) State two reasons why the invention of vacuum tube is crucial to the modern computers.
- (b) Who is(are) the inventor(s) of vacuum tube? In which year, the vacuum tube was invented.
- (c) State two reasons why the invention of semiconductor transistor is crucial to the modern computers.
- (d) Who is(are) the inventor(s) of semiconductor transistor? In which year, the semiconductor transistor was invented.