



Please print in pen:

Waterloo Student ID Number:

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WatIAM/Quest Login Userid:

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Examination Final Spring 2026 CS 240

Closed Book

Candidates may bring no aids (no calculators).

Times: Tuesday 2026-08-11 at 12:30 to 15:00 (3PM)

Duration: 2 hours 30 minutes (150 minutes)

Exam ID: 6655414

Sections: CS 240 LEC 001-004

Instructors: Armin Jamshidpey, Eric Schost

Guidelines:

- No help sheet or calculator allowed, but you can use the following facts:

$$\sum_{i=1}^N i = N(N+1)/2, \quad \sum_{i=0}^N 2^i = 2^{N+1} - 1, \quad \sum_{i=0}^{\infty} i/2^i < \infty$$

- Write your answers clearly and legibly in the boxes provided. If you need more space, use the extra pages at the end of the exam and indicate that you have done so.
- You may use any result or algorithm from lectures without proof, **with a possible exception that we discuss in problem 4**
- In case of a perceived ambiguity, clearly state your assumptions.
- Students may not leave the examination room during the first 60 or the final 10 minutes.
- Sign here in pen:

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Problem	Max
1	5
2	8
3	8
4	6
5	7
6	6
7	7
8	8
9	8
10	8
11	6