

PLEASE HAND IN

UNIVERSITY OF TORONTO  
Faculty of Arts and Science

April 2018 Examinations

CSC 148H1S  
Duration — 3 hours  
No aids allowed.

PLEASE HAND IN

Student Number: \_\_\_\_\_

Last Name: \_\_\_\_\_

First Name: \_\_\_\_\_

*Do not turn this page until you have received the signal to start.*  
(In the meantime, please fill out the identification section above,  
and read the instructions below.)

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This exam consists of 7 questions on 16 pages (including this one).  
*When you receive the signal to start, please make sure that your copy of the exam is complete.*

Please answer questions in the space provided. If you need additional space, clearly indicate on the question page where to find your answer.

You will earn 20% for any question you leave blank or write “I cannot answer this question” on. You might earn substantial part marks for writing down the outline of a solution and indicating which steps are missing. You may use helper functions, if you wish, provided you define them on this paper.

You must achieve 40% of the marks on this final exam to pass this course.

There is a Python API at the end of this exam.

# 1: \_\_\_\_\_/12

# 2: \_\_\_\_\_/10

# 3: \_\_\_\_\_/ 6

# 4: \_\_\_\_\_/ 8

# 5: \_\_\_\_\_/ 5

# 6: \_\_\_\_\_/ 5

# 7: \_\_\_\_\_/ 8

TOTAL: \_\_\_\_\_/54

*Good Luck!*