

UNIVERSITY OF TORONTO
Faculty of Arts and Science

Midterm 1
CSC165H1S

Duration: 50 minutes
Instructor(s): David Liu, Toniann Pitassi
No Aids Allowed



Exam 1-1

Name: | 5 |

Student Number: | | | | | | | |

Please read the following guidelines carefully!

- Please write your name on both the front and back of this exam.
 - This examination has 4 questions. There are a total of 8 pages, **DOUBLE-SIDED**.
 - Answer questions clearly and completely, with justifications unless explicitly asked not to.
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 - You may **not** use induction for your proofs on this midterm.
-

Take a deep breath.

This is your chance to show us

How much you've learned.

We **WANT** to give you the credit

That you've earned.

A number does not define you.

Good luck!



Exam 1-2

CSC165H1S , Winter 2017

Midterm 1

1. [2 marks] Here is question 1.

1



2. [2 marks] Here is question 2.

Red

3. [3 marks] Here is question 3.

pen



Exam 1-4

CSC165H1S , Winter 2017

Midterm 1

4. [4 marks] Here is a multi-page question.

7

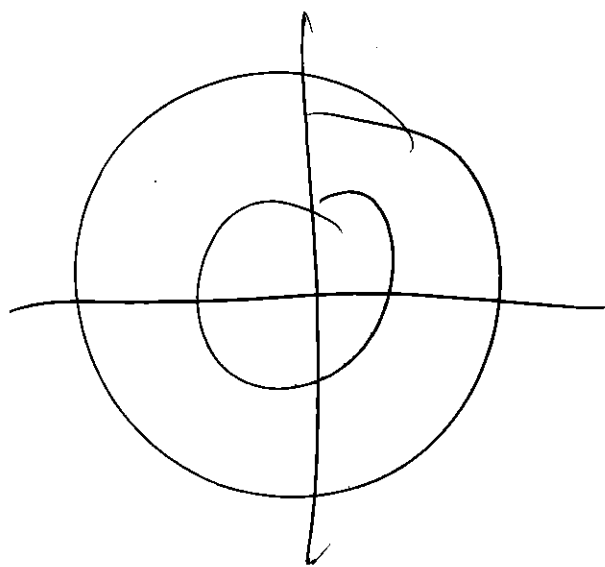
7

2

7



Question 4 continued...



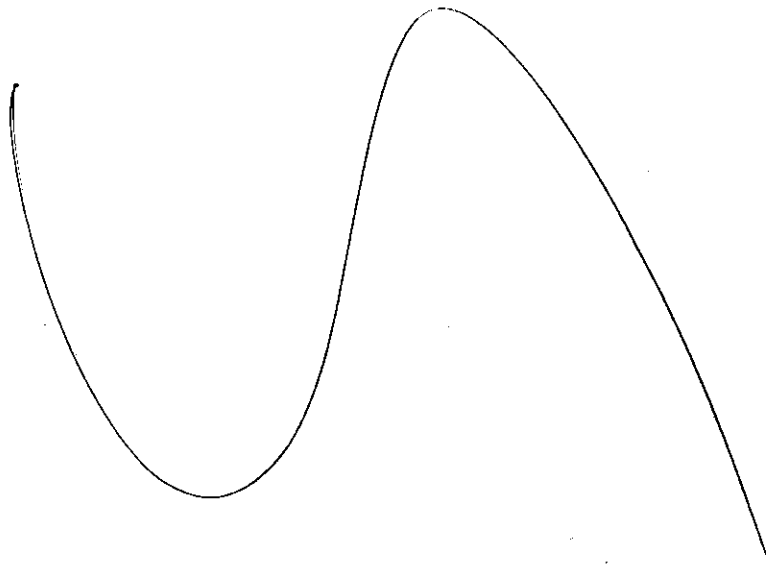


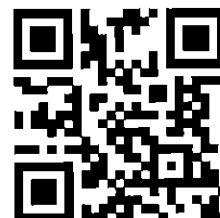
Exam 1-6

CSC165H1S , Winter 2017

Midterm 1

Use this page for rough work. If you want work on this page to be marked, please indicate this clearly *at the location of the original question.*



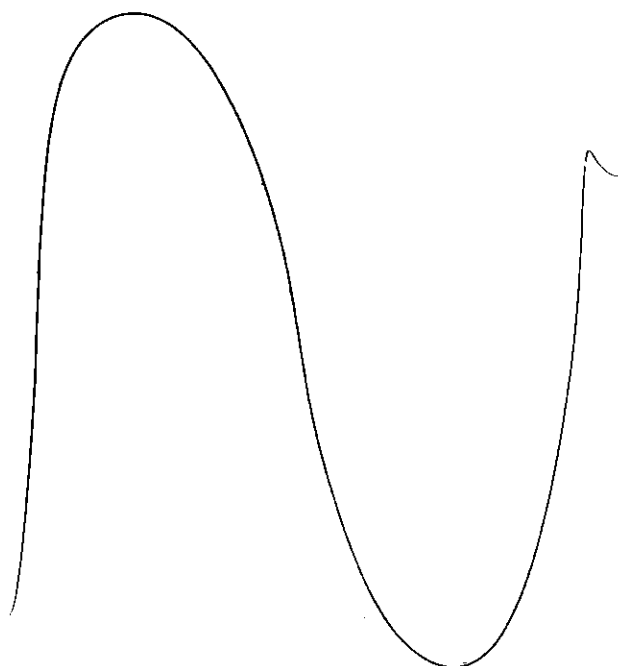


Exam 1-7

CSC165H1S , Winter 2017

Midterm 1

Use this page for rough work. If you want work on this page to be marked, please indicate this clearly *at the location of the original question.*





Exam 1-8

CSC165H1S , Winter 2017

Midterm 1

Name: |,|

Question	Grade	Out of
Q1		2
Q2		2
Q3		3
Q4		4
Total	4	11

UNIVERSITY OF TORONTO
Faculty of Arts and Science

Midterm 1
CSC165H1S



Exam 2-1

Duration: 50 minutes
Instructor(s): David Liu, Toniann Pitassi
No Aids Allowed

Name: 2,2
Student Number: 22222222

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Exam 2-2

CSC165H1S , Winter 2017

Midterm 1

1. [2 marks] Here is question 1.

2



Exam 2-3

CSC165H1S , Winter 2017

Midterm 1

2. [2 marks] Here is question 2.

R

3. [3 marks] Here is question 3.

P

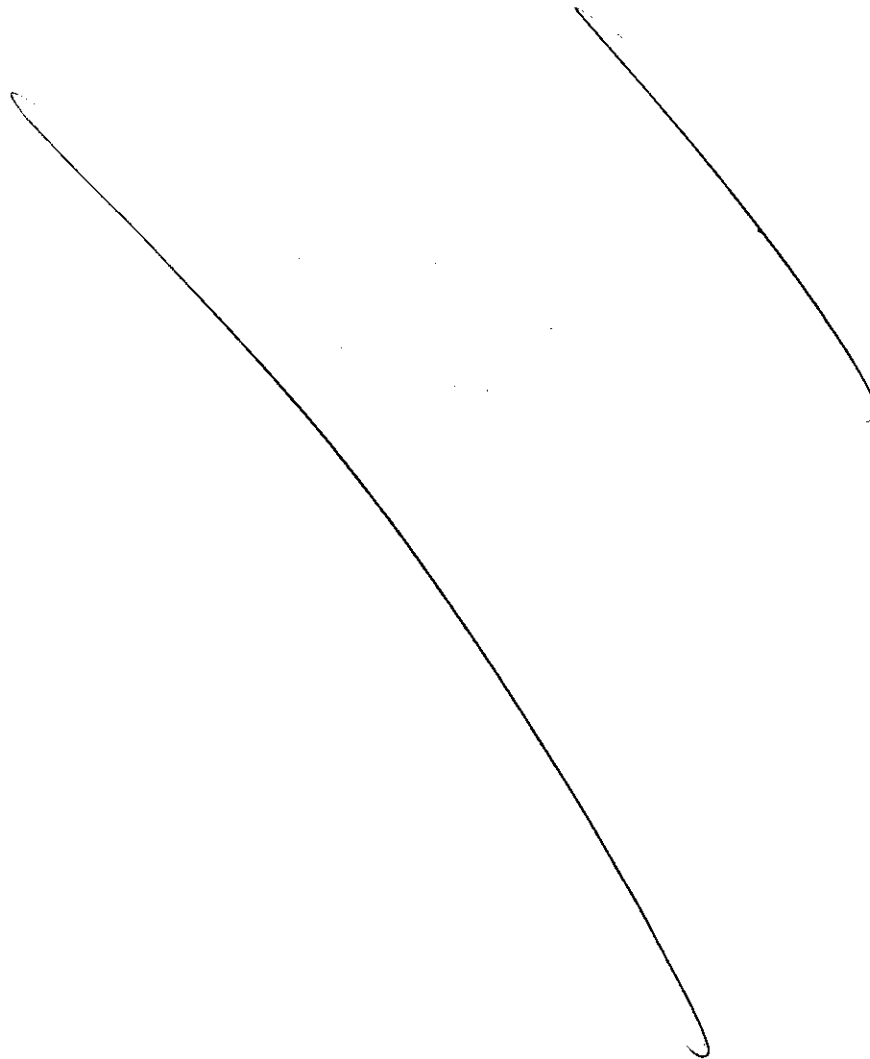


Exam 2-4

CSC165H1S , Winter 2017

Midterm 1

4. [4 marks] Here is a multi-page question.



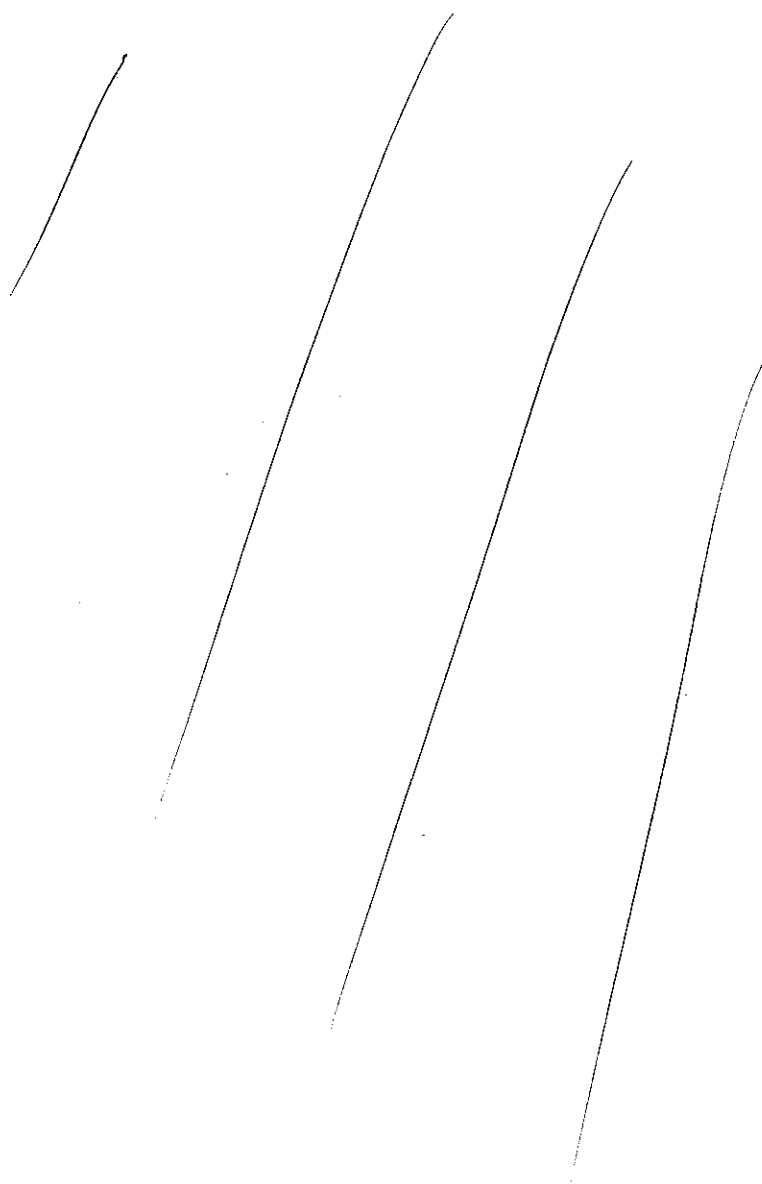


Exam 2-5

CSC165H1S , Winter 2017

Midterm 1

Question 4 continued...





Exam 2-6

CSC165H1S , Winter 2017

Midterm 1

Use this page for rough work. If you want work on this page to be marked, please indicate this clearly *at the location of the original question.*



Exam 2-7

CSC165H1S , Winter 2017

Midterm 1

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Exam 2-8

CSC165H1S , Winter 2017

Midterm 1

Name:

Question	Grade	Out of
Q1		2
Q2		2
Q3		3
Q4		4
Total		11

UNIVERSITY OF TORONTO
Faculty of Arts and Science

Midterm 1
CSC165H1S

Duration: 50 minutes
Instructor(s): David Liu, Toniann Pitassi
No Aids Allowed



Exam 3-1

Name: 3, 3

Student Number: 3333333333

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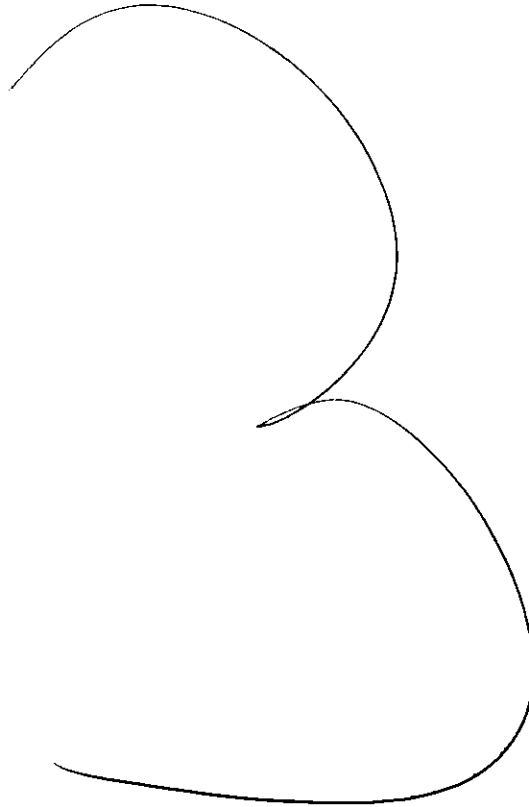


Exam 3-2

CSC165H1S , Winter 2017

Midterm 1

1. [2 marks] Here is question 1.





2. [2 marks] Here is question 2.

3

3. [3 marks] Here is question 3.

3



Exam 3-4

CSC165H1S , Winter 2017

Midterm 1

4. [4 marks] Here is a multi-page question.

3

3

3

3

3



Question 4 continued...

3

3

3

3

3

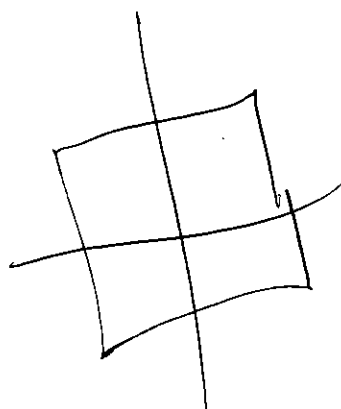


Exam 3-6

CSC165H1S , Winter 2017

Midterm 1

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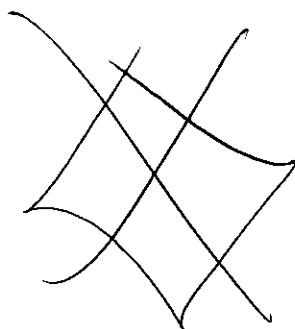


Exam 3-7

CSC165H1S , Winter 2017

Midterm 1

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Exam 3-8

CSC165H1S , Winter 2017

Midterm 1

Name:

Question	Grade	Out of
Q1	3	2
Q2	3	2
Q3	3	3
Q4	3	4
Total	12	11

UNIVERSITY OF TORONTO
Faculty of Arts and Science



Midterm 1
CSC165H1S

Exam 4-1

Duration: 50 minutes
Instructor(s): David Liu, Toniann Pitassi

No Aids Allowed

Name: 4, 4

Student Number: 4444444444

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Exam 4-2

CSC165H1S , Winter 2017

Midterm 1

1. [2 marks] Here is question 1.

4



2. [2 marks] Here is question 2.

Blue

3. [3 marks] Here is question 3.

pen



Exam 4-4

CSC165H1S , Winter 2017

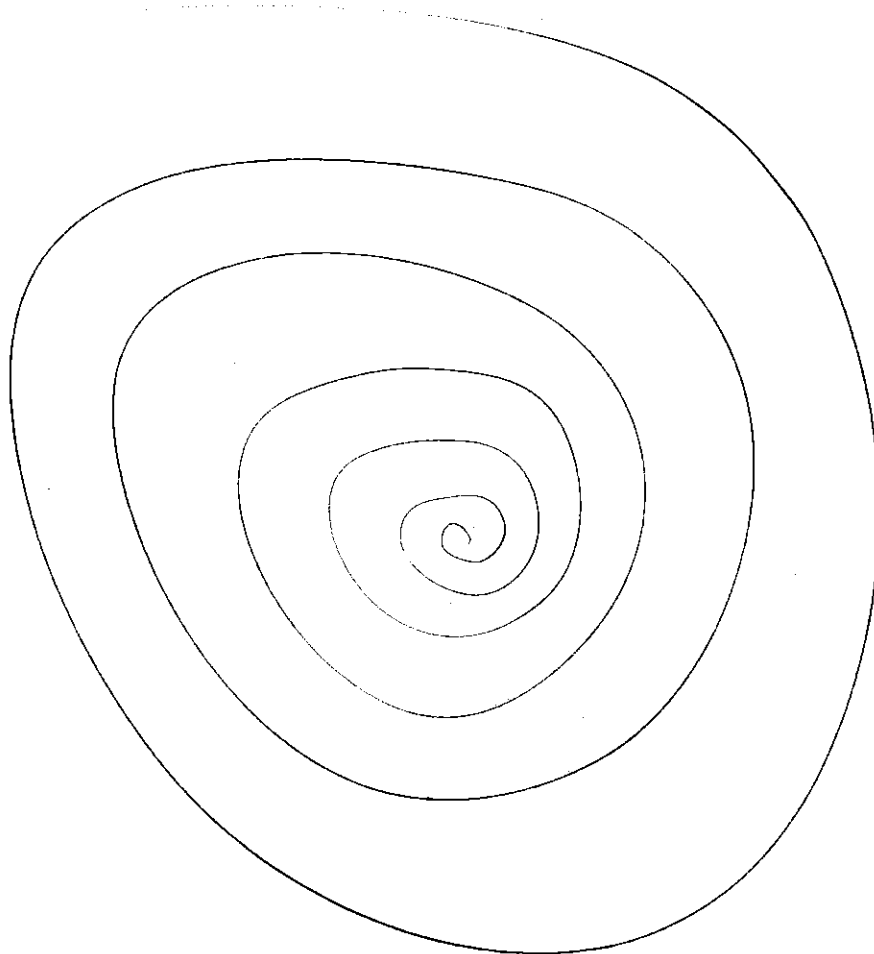
Midterm 1

4. [4 marks] Here is a multi-page question.

4



Question 4 continued...





Exam 4-6

CSC165H1S , Winter 2017

Midterm 1

Use this page for rough work. If you want work on this page to be marked, please indicate this clearly *at the location of the original question*.



Exam 4-7

CSC165H1S , Winter 2017

Midterm 1

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Exam 4-8

CSC165H1S , Winter 2017

Midterm 1

Name: 4,4

Question	Grade	Out of
Q1		2
Q2		2
Q3		3
Q4		4
Total		11

UNIVERSITY OF TORONTO
Faculty of Arts and Science

Midterm 1
CSC165H1S

Duration: 50 minutes
Instructor(s): David Liu, Toniann Pitassi
No Aids Allowed



Exam 5-1

Name: 5, 5

Student Number: 5555567890

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-

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Exam 5-2

CSC165H1S , Winter 2017

Midterm 1

1. [2 marks] Here is question 1.

12345



2. [2 marks] Here is question 2.

678910

3. [3 marks] Here is question 3.

abcde



Exam 5-4

CSC165H1S , Winter 2017

Midterm 1

4. [4 marks] Here is a multi-page question.

fghij



Exam 5-5

Midterm 1

CSC165H1S , Winter 2017

Question 4 continued...

$k|mn0$



Exam 5-6

CSC165H1S , Winter 2017

Midterm 1

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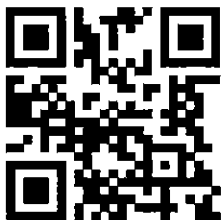
Exam 5-7

Midterm 1

CSC165H1S , Winter 2017

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u v w x y



Exam 5-8

CSC165H1S , Winter 2017

Midterm 1

Name: Z!

Question	Grade	Out of
Q1	5	2
Q2	5	2
Q3	5	3
Q4	5	4
Total	20	11