

CS1203 Assignment 9

Fall 2020

Due **Monday December 7th** before **4pm Atlantic** in the Desire2Learn dropbox.

Note: All answers need to be contained in a single document using a word processor. If you want to write out your answers by hand you may scan or take pictures of your work but they must be legible and inserted into the document in the correct order and labelled with the question number. The first page of the document must be a title page (see sample posted in D2L). Once you have finished your document, save the document as a PDF file. **Submit the PDF file** to the appropriate drop box on Desire2Learn. Name your document as follows: **CS1203_YourName_A9**

1. What will be written on the screen by running the following pseudocode algorithm?

```
Push(myStack, 5)
Push(myStack, 7)
Push(myStack, 4)
Pop(myStack, item)
Pop(myStack, item)
Push(myStack, item)
Push(myStack, 9)
WHILE (NOT IsEmpty(myStack))
    Pop(myStack, item)
    Write item, ''
```

2. What will be written on the screen by running the following pseudocode algorithm?

```
Enqueue(myQueue, 5)
Enqueue(myQueue, 4)
Enqueue(myQueue, 1)
Dequeue(myQueue, item)
Dequeue(myQueue, item)
Enqueue(myQueue, item)
Enqueue(myQueue, 10)
WHILE (NOT IsEmpty(myQueue))
    Dequeue(myQueue, item)
    Write item, ''
```

3. Draw the **binary search tree** whose elements are inserted in the following order:
50, 72, 96, 94, 107, 26, 12, 11, 9, 2, 10, 25, 51, 16, 17, 95

(Assignment continued on next page...)

4. The table below represents the bus routes between bus stops and the values represent the distance between the stops (0 indicates there is no route between the stops). The bus travels in the direction from the row bus stop location to the column bus stop location. Draw a directed weighted graph using the information in the table.

	TO:					
FROM:	Mall	Hospital	Campus	Airport	Train Station	City Hall
Mall	0	4	2	0	7	0
Hospital	7	0	9	0	0	5
Campus	3	6	0	15	12	0
Airport	0	0	12	0	6	0
Train Station	0	0	10	0	0	0
City Hall	3	5	0	0	13	0