

## Weekly Exercise #5: Graph Concepts

Category	Mark
<b>Quiz (on eClass)</b> <ul style="list-style-type: none"> <li>Correctness of responses for the 4 quiz questions (2.5 marks each).</li> </ul>	/10
<b>Count Components</b> <ul style="list-style-type: none"> <li>The function considers all undirected edges from vertex <math>u</math> to vertex <math>v</math> in the input graph as two directed edges <math>(u,v)</math> and <math>(v,u)</math> and interfaces with the provided Graph class (5 marks).</li> <li>The graph search algorithm is modified to count the number of connected components, and the running time of the function is linear (20 marks).</li> <li>Consistently counts the correct number of connected components of input graphs, based on the number of test cases passed (20 marks).</li> </ul>	/45
<b>Parsing CSV and Building Graph</b> <ul style="list-style-type: none"> <li>The CSV file is properly opened and closed, and each line of the CSV is parsed to extract vertices and edges (15 marks).</li> <li>The function constructs and returns an undirected graph based on the CSV data (10 marks).</li> </ul>	/25
<b>Running Behaviour</b> <ul style="list-style-type: none"> <li>When the code is run, the function to parse the CSV of the Edmonton Graph is correctly called. The count components function is then called to print the number of connected components in the Edmonton graph.</li> </ul>	/10
<b>Makefile</b> <ul style="list-style-type: none"> <li>Makefile contains the targets specified in the assignment description.</li> </ul>	/10

**Further Note:** Deductions (to the overall grade) may be applied at the grader's discretion if the submission

- Does not compile due to syntax errors. Significant deductions apply if this happens, possibly resulting in a grade of 0 overall. You must submit code that can be compiled.
- Has extremely poor code structure, style, or modularity. Remember, even though C++ does not require proper indentation to be compiled **you must still indent properly for style**.
- Does not follow submission instructions. Remember, you are required to include a README file (no .txt extension to the filename) and to compress all files in your solution into either a single .zip file or a single .tar.gz file.
- Does not follow the Code Submission Guidelines in any substantial way. **Good style (proper variable names, modularity, indentation, comments, etc.) is essential and should be practiced. Bad style will lead to significant mark deductions.**