

Checklist				
	Item	your assignment details		Comments
1	Names and ID numbers of Group Members	Nathan Ploos Van Amstel ID: 20010307		(maximum of 3 members in a group)
2	Operating System used for testing your codes	Windows 10 and Windows 11		Note: your codes must be tested on Windows 10. The graphics engine only works on Windows.
3	Compiler used	GCC 11.2		Note: gcc 11.2 is required
4	IDE used	Visual Studio Code		(e.g. SublimeText 4, Visual Studio 2022)
5	Complete source codes and support files for compilation/linking/execution	*.cpp files	Yes	You must submit the complete source codes and support files for compilation purposes. (Indicate 'Yes' or 'No')
		*.h files	Yes	
		makefile	Yes	
		search.sln	No	
6	Algorithms	uc_explist	full	Indicate 'full', if you have completed the implementation of an algorithm, or 'partial', if you are only submitting a partial implementation.
		astar_explist_manhattan	full	
		astar_explist_misplacedtiles	full	
7	Is your program able to run using the batch_run all mode provided?	Yes Note: This does take some time to run as one of the UC tests takes 300 seconds to complete		Your program must be able to execute in batch_run all mode. (Indicate 'Yes' or 'No')
8	Experiment Results in Excel Worksheet	Yes		<ul style="list-style-type: none"> • indicate 'Yes' or 'No' • you will lose 50% of your grade if you fail to submit this Excel file
9	Extra work (Bonus): Enhancements/ Optimisations included	Yes Used A priority_queue instead of heap; they are essentially the same but the priority_queue can use an operator to sort the costs as they are added queue.		original implementation and correct usage of a hash function, to speed up search. The hash value returned must be of numeric type, and there should be an evidence of search speed increase