≡     🔍 (https://profile.intra.42.fr/searches)                    **plettie**

(https://profile.intra.42.fr)

Remember that the quality of the defenses, hence the quality of the of the school on the labor market depends on you. The remote defences during the Covid crisis allows more flexibility so you can progress into your curriculum, but also brings more risks of cheat, injustice, laziness, that will harm everyone's skills development. We do count on your maturity and wisdom during these remote defenses for the benefits of the entire community.

# SCALE FOR PROJECT N-PUZZLE (/PROJECTS/42CURSUS-N-PUZZLE)

You should evaluate 2 students in this team

★

Git repository

`git@vogsphere.msk.21-school.ru:vogsphere/intra-uuid-4c143a00·`    📋

# Introduction

In order to have a productive and tolerable grading session, we ask that you :

- Stay courteous, polite, respectful and constructive during this session. The bond of trust between members of the 42 community depends on it;
- Take care to show the graded person(s) the problems you notice, and explain them as best you can;
- Accept that there may be differences in interepretation on the featureset and/or what the subject requires. Stay open-minded, try to honestly determine who is right and who is not, and grade accordingly.

# Guidelines

Remember that you must ONLY grade what's on the turn-in repository !

You have to "git clone" the repository, and grade what's on it, AND ONLY WHAT IS ON IT.

# Attachments

◻ subject.pdf (https://cdn.intra.42.fr/pdf/pdf/17244/en.subject.pdf)

◻ npuzzle-gen.py (/uploads/document/document/2630/npuzzle-gen.py)

# First and foremost

**Preliminary checks**

Check the following elements:

- There is something in the git repository
- The "auteur" file, if required by the subject, is present and valid
- The Makefile, if required, is present and has the required rules

If one of these elements is not in confirmity with what the subject requires, the session stops. You may still debate on the project, but you are not to grade the student(s).

During the rest of this session, if the program has an inappropriate behaviour (Segfault, bus error, double-free, uncaught exception, etc ...), the session stops.

⊘ Yes                                              ✕ No


# Actually running the program

**Output correctness**

The students have the output required by the subject, which is:

- Complexity in time
- Complexity in size
- Number of moves from initial state to solution
- Ordered sequence of states that make up the solution

Or, if the puzzle is unsolvable, it has to be displayed, and the program has to exit cleanly.

⊘ Yes                                              ✕ No


**Solution**

Test the program on some puzzles, some from the students (the subject requires that they bring some) and some using the generator in the subject.

The program has to find a solution when it is possible, and if the puzzle is unsolvable, it has to tell the user and exit cleanly. The solution has to be valid : Check that the program does not "cheat".

If the generator says the puzzle is solvable, then it IS
solvable, so no excuses.

>>> IF YOU DO NOT ANSWER YES TO THIS QUESTION, THE SESSION ENDS,
DO NOT GRADE THE REST. <<<

    ✓ Yes            ✗ No

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**Bare-minimum time efficiency**

The program is able to find a solution to a solvable 3-puzzle in
under a few seconds. More than 10 seconds is unacceptable.

    ✓ Yes            ✗ No

# Search algorithm

**A\* algorithm**

The students implemented the A\* algorithm or one of its variants
(B\*, IDA\*, etc ...) AND are able to explain it comprehensibly.

    ✓ Yes            ✗ No

**Heuristics**

The students let the user choose between at least 3 (relevant)
heuristic functions AND are able to explain how their heuristics
work AND are able to explain why their heuristics are
admissible.

    ✓ Yes            ✗ No

# Data structures

**Open set**

The students have implemented their "open" set with a relevant
data structure.

- A priority queue (i.e a queue that gives you the high-priority
elements first, here "high-priority" means "low-cost"), or
another container that allows for immediate retrieval of the
lowest-cost item, is worth 5
- A map/dict/hash of (cost) -> (node list) is worth 3

- Another container with a kind of mechanism to easily find the
highest priority element is worth 2
- Any other container, such as list/vector/etc ... is worth 0

Also, the students must be able to explain the relevance of
their choice. If they can not, this is worth 0

**Rate it from 0 (failed) through 5 (excellent)**

**5**

**Closed set**

The students have implemented their "closed" set with a relevant
data structure.

- A container that easily allows to check whether a node
currently is in the set or not is worth 5
- Any other container, such as list/vector/etc ... is worth 0

Also, the students must be able to explain the relevance of
their choice. If they can not, this is worth 0

**Rate it from 0 (failed) through 5 (excellent)**

**5**

# Data structures

**Greedy search**

The students have implemented an option to do a greedy search
and are able to explain it.

⌀ Yes                                         ✕ No

**Greedy search**

The students have implemented an option to do a uniform-cost
search and are able to explain it.

⌀ Yes                                         ✕ No

**Other interesting bonuses**

The students have implemented other interesting bonuses. 1 point per identifiable bonus feature that you deem relevant and/or interesting.

**Rate it from 0 (failed) through 5 (excellent)**

5

# Ratings

**Don't forget to check the flag corresponding to the defense**

✔ Ok

★ Outstanding project

▪ Empty work　　　　💬 No author file　　　　☠ Invalid compilation　　　　🎜 Norme　　　　🗐 Cheat　　　　⚔ Crash

👤 Incomplete group　　　　🚫 Forbidden function

# Conclusion

**Leave a comment on this evaluation**

**Finish evaluation**

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