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# SCALE FOR PROJECT CPP MODULE 02 (/PROJECTS/CPP-MODULE-02)

You should evaluate 1 student in this team



Git repository

`git@vogsphere.kzn.21-school.ru:vogsphere/intra-uuid-9f7457e`



## Introduction

- Only grade the work that is in the student or group's GiT repository.
- Double-check that the GiT repository belongs to the student or the group. Ensure that the work is for the relevant project and also check that "git clone" is used in an empty folder.
- Check carefully that no malicious aliases were used to fool you and make you evaluate something other than the content of the official repository.
- To avoid any surprises, carefully check that both the evaluating and the evaluated students have reviewed the possible scripts used to facilitate the grading.
- If the evaluating student has not completed that particular project yet, it is mandatory for this student to read the entire subject prior to starting the defence.
- Use the flags available on this scale to signal an empty repository, non-functioning program, a norm error, cheating etc. In these cases, the grading is over and the final grade is 0 (or -42 in case of cheating). However, with the exception of cheating, you are encouraged to continue to discuss your work (even if you have not finished it) in order to identify any issues that may have caused this failure and avoid repeating the same mistake in the future.
- Remember that for the duration of the defence, no segfault,

no other unexpected, premature, uncontrolled or unexpected termination of the program, else the final grade is 0. Use the appropriate flag.

You should never have to edit any file except the configuration file if it exists.

If you want to edit a file, take the time to explicit the reasons with the evaluated student and make sure both of you are okay with this.

- You must also verify the absence of memory leaks. Any memory allocated on the heap must be properly freed before the end of execution.

You are allowed to use any of the different tools available on the computer, such as leaks, valgrind, or e\_fence. In case of memory leaks, tick the appropriate flag.

## Disclaimer

Please respect the following rules:

- Remain polite, courteous, respectful and constructive throughout the evaluation process. The well-being of the community depends on it.

- Identify with the person (or the group) evaluated the eventual dysfunctions of the work. Take the time to discuss and debate the problems you have identified.

- You must consider that there might be some difference in how your peers might have understood the project's instructions and the scope of its functionalities. Always keep an open mind and grade him/her as honestly as possible. The pedagogy is valid only and only if peer-evaluation is conducted seriously.

## Guidelines

You must compile with clang++, with -Wall -Wextra -Werror

As a reminder, this project is in C++98 and C++20 members functions or containers are NOT expected.

Any of these means you must not grade the exercise in question:

- A function is implemented in a header (except in a template)
- A Makefile compiles without flags and/or with something other than clang++

Any of these means that you must flag the project as Forbidden Function:

- Use of a "C" function (\*alloc, \*printf, free)
- Use of a function not allowed in the subject
- Use of "using namespace" or "friend"
- Use of an external library, or C++20 features
- Use of an already existing container, or any existing function, to implement another container

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## Attachments

 subject.pdf (<https://cdn.intra.42.fr/pdf/pdf/35323/en.subject.pdf>)

## Exercise 00: My First Canonical

*This exercise introduces the notion of canonical class with a simple arithmetic example: the fixed point numbers.*

### Makefile

There is a Makefile that compiles using the appropriate flags.

☒ Yes

☐ No

### Accessors

The Fixed class (or whatever its name) must provide accessors to the raw value:

- int getRawBits( void ) const;
- void setRawBits( int const raw );

Are these member functions present and functional?

☒ Yes

☐ No

### Canonical

A canonical class must provide at least:

- A default constructor
- A destructor
- A copy constructor
- An assignation operator

Are these elements present and functional?

☒ Yes

☐ No

## Exercise 01: Towards a more useful fixed point class

*Ex00 was a good start, but our class is still pretty useless being only able to represent the fixed point value 0.0.*

### Makefile

There is a Makefile that compiles using the appropriate flags.

☒ Yes

☐ No

### Floating point constructor

Is it possible to construct an instance from a floating point value?

☒ Yes☐ No

### << operator

Is there a << operator overload and is it functional?

☒ Yes☐ No

### Fixed point value to integer value

A member function "int toInt( void ) const;" that converts the fixed point value to an integer value must be present. Is it functional?

☒ Yes☐ No

### Fixed point value to floating point value

A member function "\float toFloat( void ) const;" that converts the fixed point value to a float value must be present. Is it functional?

☒ Yes☐ No

### Integer constructor

Is it possible to construct an instance from an integer value?

☒ Yes☐ No

## Exercise 02: Now we're talking

*This exercise add comparison and arithmetic features to the class.*

### Makefile

There is a Makefile that compiles using the appropriate flags.

☒ Yes☐ No

### Comparison operators

Are the six comparison operators (>, <, >=, <=, == and !=) present and functional?

☒ Yes☐ No

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### Arithmetic operators

Are the six arithmetic operators (+, -, \*, /) present and functional?

☒ Yes☐ No

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### Other operators

The pre-increment, post-increment, pre-decrement and post-decrement operators are present and functional?

☒ Yes☐ No

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### Static member functions overloads

Last but not least, test the the min and max static member functions are implemented and working properly.

☒ Yes☐ No

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## Exercise 03: BSP

*This exercise should have make you realize how easy it is to implement complex algorithms once the basics work as intended.*

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### Makefile

There is a Makefile that compiles using the appropriate flags.

☒ Yes☐ No

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### Class Point

There is a class Point which has two attributes (x and y) of type Fixed const.  
It also has a constructor that takes two floats and initialize x and y with those values.

☒ Yes☐ No

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### Function bsp

There is a function bsp which prototype is  
"bool bsp( Point const a, Point const b, Point const c, Point const point)".  
The function returns True if the point is inside of the triangle described by the vertices a, b, and c.  
It returns False otherwise.

☒ Yes☐ No

### Main and tests

There is a main to test that the function bsp works as mentioned above.

Run several test to make sure that the return value is correct.

☒ Yes☐ No

## Ratings

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

☒ Ok☐ Empty work☐ Incomplete work☐ Invalid compilation☐ Cheat☐ Crash☐ Forbidden function

## Conclusion

Leave a comment on this evaluation

Finish evaluation

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