

revor

## SCALE FOR PROJECT PISCINE CPP (/PROJECTS/PISCINE-CPP) / DAY 04 (/PROJECTS/42-PISCINE-C-FORMATION-PISCINE-CPP-DAY-04)

## Introduction

The subject of this project is rather vague and leaves a lot to the user's choice. This is INTENDED. The questions in this grading scale, however, are very focused and concentrate on what we think is the core of each exercise, what we want you to grasp. So we would like you to do the same: You can and should tolerate moderate deviations in filenames, function names, etc... as long as the exercise basically works as intended. Of course, in case the student you are grading really strayed too far, you should not grade the exercise in question at all. We leave it to your good judgement to determine what constitutes "straying too far".

The usual obvious rules apply: Only grade what's on the git repository of the student, don't be a dick, and basically be the grader you would like to have grading you.

Do NOT stop grading when an exercise is wrong.

## **Guidelines**

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

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++
- A class is not in Coplien's form

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

- Use of a "C" function (\*alloc, \*printf, free)
- Use of a function not allowed in the subject
- Use of "using namespace" or "friend" (Unless explictly allowed in the subject)
- Use of an external library, or C++11 features (Unless explictly allowed in the subject)

## **Attachments**

Subject (https://cdn.intra.42.fr/pdf/pdf/2731/d04.en.pdf)

Destructor chaining		
The destructors in Victim and deriv	ed are virtuals	
<b>⊘</b>	Yes	×No
Easy subclass		
There is a Peon class that inherits place that the correct outputs.	publicly from Victim.	
©	Yes	imesNo
Victim		
There is a Victim class. It has a name. The required outputs on constructi The required overload of operato correctly.	on and destruction are present. · << to ostream is present and works	
©	Yes	imesNo
Thorough testing		
There are tests in the main with de and everything works well with th	·	
	Yes	×No

 $\times$ No

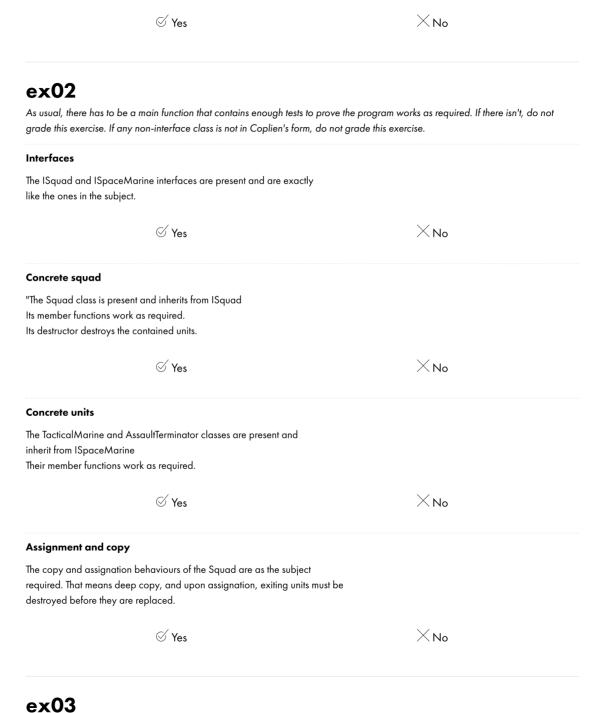
The Victim can getPolymorphed() const, with the correct output.

✓ Yes

The Sorcerer can polymorph(Victim const &) const.

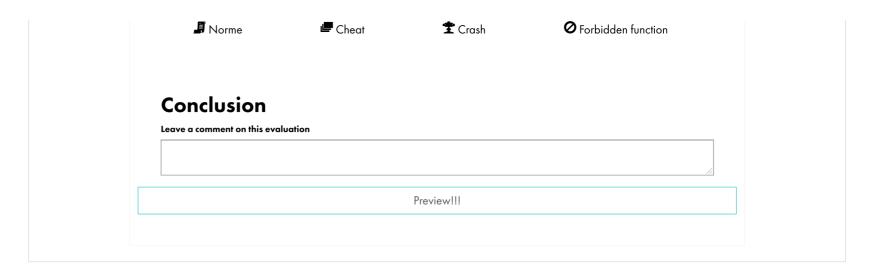
There is a Sorcerer class.		
It has a name and a title.		
It has a constructor with name a		
It cannot be instanciated without	or parameters. Onstructor must be private, or it must be	
declared but non-implemented,		
· · · · · · · · · · · · · · · · · · ·	ction and destruction are present.	
· ·	tor << to ostream is present and works	
correctly.	,	
•		
	✓ Yes	×N₀
ex01		
As usual, there has to be a mair	n function that contains enough tests to prove	the program works as required. If there isn't, do n
	interface class is not in Coplien's form, do not	
Character		
There is a Character class.		
It has the attributes required by	the subject : name, AP, pointer to	
It has the attributes required by AWeapon.		
It has the attributes required by AWeapon. It has the required AP behavior	: 40 on start, lose X AP on attack	
It has the attributes required by AWeapon. It has the required AP behavior depending on the weapon, and	: 40 on start, lose X AP on attack d recover 10 with recoverAP up to maximum o	of
It has the attributes required by AWeapon. It has the required AP behavior	: 40 on start, lose X AP on attack d recover 10 with recoverAP up to maximum o	of
It has the attributes required by AWeapon. It has the required AP behavior depending on the weapon, and 40. attack() fails if there isn't e	: 40 on start, lose X AP on attack I recover 10 with recoverAP up to maximum o enough AP.	
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It has the attributes required by AWeapon. It has the required AP behavior depending on the weapon, and 40. attack() fails if there isn't e  Concrete weapons There are concrete PlasmaRifle of the player that the attributes and attributes and attributes and attributes.	: 40 on start, lose X AP on attack d recover 10 with recoverAP up to maximum of enough AP.  Yes  and PowerFirst weapons. (So, they inherit from ack() outputs specified by the subject.	∑ No m AWeapon)
It has the attributes required by AWeapon. It has the required AP behavior depending on the weapon, and 40. attack() fails if there isn't e  Concrete weapons There are concrete PlasmaRifle of the player that the attributes and attributes and attributes and attributes.	: 40 on start, lose X AP on attack d recover 10 with recoverAP up to maximum of enough AP.  Yes  and PowerFirst weapons. (So, they inherit from	×N₀
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It has the attributes required by AWeapon. It has the required AP behavior depending on the weapon, and 40. attack() fails if there isn't e  Concrete weapons There are concrete PlasmaRifle of the American Am	: 40 on start, lose X AP on attack direcover 10 with recoverAP up to maximum of enough AP.  Yes  and PowerFirst weapons. (So, they inherit from ack() outputs specified by the subject.  Yes  ns work as required.	∑ No m AWeapon)
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The destructors in AWeanon of		
The desirations in 744 capon c	and its derived classes are virtual	
	✓ Yes	×N₀
Thorough testing		
There are tests in the main with enemies.	n more derived weapons and more derive	d
	✓ Yes	×N₀
Destructor chaining AGAI	N	
The destructors in Enemy and	its derived classes are virtual	
		imesNo
Concrete enemies		
There are concrete SuperMuta	ant and RadScorpion enemies (That inherit	from Enemy, obviously)
They have the required attribu		
The SuperMutant has the requ	uired overload of takeDamage() and it wo	rks as required.
	⊗ Yes	V
	⊕ les	×N₀
Enemy	····	∕ No
<b>Enemy</b> There is an Enemy class.	· les	No
There is an Enemy class. It has the attributes required b	y the subject : type, number of HP	. No
There is an Enemy class. It has the attributes required b Its member functions are imple	y the subject : type, number of HP emented coherently.	. No
There is an Enemy class. It has the attributes required b Its member functions are imple	y the subject : type, number of HP	. No
There is an Enemy class. It has the attributes required b Its member functions are imple	y the subject : type, number of HP emented coherently.	× No
There is an Enemy class. It has the attributes required b Its member functions are imple	y the subject : type, number of HP emented coherently. keDamage to prevent going under 0 HP	
There is an Enemy class. It has the attributes required b Its member functions are imple It has the required check in tal	y the subject : type, number of HP emented coherently. keDamage to prevent going under 0 HP Yes	



Interfaces		
The ICharacter and IMateri like in the subject.	iaSource interfaces are present and are exa	ctly
	⊗ Yes	imesNo
Source		
The MateriaSource class is The member functions work	present and implements IMateriaSource. as intended.	
	✓ Yes	imesNo
Concrete materia		
	Cure classes that inherit from AMateria	
	ectly implemented.	
Their clone() method is corr Their outputs are correct.	ectly implemented.	imesNo
		×No
Their outputs are correct.  Character  The Character class is press It has an inventory of 4 ma	Yes  ent and implements ICharacter.	×No
Their outputs are correct.  Character  The Character class is press It has an inventory of 4 ma	✓ Yes  ent and implements ICharacter.  terias.	×No
Their outputs are correct.  Character The Character class is press It has an inventory of 4 ma The member functions are in	✓ Yes  ent and implements ICharacter. terias. mplemented as the subject requires.	
Their outputs are correct.  Character  The Character class is press It has an inventory of 4 ma	<ul> <li>Yes</li> <li>Yes</li> <li>ent and implements ICharacter.</li> <li>terias.</li> <li>mplemented as the subject requires.</li> <li>Yes</li> <li>It has a type.</li> </ul>	

The copy and assignation of a Character are implemented as required (= deep copy, very much like the previous exercise) Ves  $\times$ No ex04 As usual, there has to be a main function that contains enough tests to prove the program works as required. If there isn't, do not grade this exercise. If any non-interface class is not in Coplien's form, do not grade this exercise. DD's patcher! The mine/beMined dispatch mechanism works as required. In theory, there should be a beMined(StripMiner \*) and a beMined(DeepCoreMiner\*), and the mine() method should call beMined passing \"this\" as parameter, which would dispatch the call to a method that depends on the type of the asteroid (subtype polymorphism) and the type of the laser (adhoc polymorphism). Basically the double-dispatcher design pattern, just a bit dumber. Now the clever bit: If the student tries to pass off a technique that uses typeid, dynamic\_cast, the names of the lasers/asteroids, etc ... to select the output, MARK THE WHOLE PROJECT AS CHEAT and leave it at that, because it is EXPLICTLY forbidden by the subject. √ Yes  $\times$ No **Basics** The IAsteroid and IMiningLaser interfaces are present. Concrete Asteroids and MiningLasers are implemented. ✓ Yes  $\times$ No **Ratings** Don't forget to check the flag corresponding to the defense **✓** Ok Empty work Incomplete work No author file nvalid compilation



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