

# Homework 5 - Introducing C++ Objects

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The objective of this assignment is to start working with C++ classes and objects and simple inheritance. Again, the homework consists of multiple files and a Makefile. You will essentially be re-writing the simple AI program from Homework 1, but using C++ classes rather than C functions. You will

- Provide implementation for the `Response` class methods.
- Provide implementation for the `AngryResponse` class method(s).
- Provide the class definition and implementation for a `HappyResponse` class which also inherits from `Response` but adds some happiness in its output.

See the skeleton code for details of what these methods should do. The specific indications of mood in the output are up to you (have fun, but don't break anything). A minimal solution will print :( with angry responses and :) with happy responses. Note that we provide a main function (in `main.cc`) which will be used to test your classes. The logic of this function is slightly different than in Homework 1: you run the executable with a keyword-response filename and a number of rounds as arguments then the main function will read that many rounds from stdin and respond based on the keywords and responses in the given file.

When you have completed your assignment, verify it on ix-dev. For this project, do not change the file names - just keep them as they are and implement the functions. Also, do not change anything in `main.cc` in your final version.

Grading:

- Working implementation of `Response` class: 5
- Working implementation of `AngryResponse` class: 2
- Correct definition and working implementation of `HappyResponse` class:  
3

Have fun with your assignment and don't hesitate to post questions on Piazza if something is ambiguous. For this assignment, I expect you to be able to read someone else's (C++) code and figure out what is going on.