

3. **(12 points)** Describe (in English) the need for C++'s friend construct. Then give a minimal example of how it is used.

4. **(15 points)** Write a templated (in type T) class called **Foo**. It should have a protected attribute (of type T) named `mValue`. It should have a public constructor that initializes `mValue`. It should also have a public getter and setter method. Finally, show a code snippet that tests the class on two different types (say `std::string` and `int`).

9. **(7 points)** What is a pre-compiled header and why are they useful? Briefly describe the process of creating one.

10. **(10 points)** Briefly describe the role (and major methods and / or attributes) of each of these ssurge classes we created this semester [I'm looking for ~2 sentences for each]:

a. GameObject

b. GameObjectManager

c. Application

d. LogManager