

Name:

1. (10 Points) Place the following variables in order by the amount of memory reserved by their declaration. Indicate the relationship between the types using  $<$ ,  $>$ ,  $\leq$ ,  $\geq$ , or  $==$ .

```
long j;  
signed char k;  
char c;  
int i;  
short m;
```

$c == k \leq m \leq i \leq l$

2. (10 Points) Consider a program consisting of the files main.cpp, bintree.cpp, bintree.h, and constants.h. Assuming the files are written correctly (eg the .cpp files include the .h files as appropriate), what command is required to compile the program and give the executable the name 'main' without using a Makefile?

$g++ -o main main.cpp bintree.cpp$

3. (10 Points) The class QuizGrade has two private integer variables: grade and maxGrade. QuizGrade also have four public methods: a default constructor, a regular constructor that receives an integer argument, a method called setGrade which receives an integer and returns nothing, and a method called getGrade that receives nothing and returns a double. Write a class header for QuizGrade. (You need not actually implement the methods in the class, or worry about #ifndefs.)

```
class QuizGrade {
    public:
        QuizGrade();
        QuizGrade(int i);
        void setGrade(int i);
        double getGrade();

    private:
        int grade;
        int maxGrade;
}
```