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|  | LAB #6  Object Oriented Programming |  |

This lab exercise is closed book/closed notes and an individual effort. It is to be completed in person on this sheet. This lab is worth 50 points and you will have 75 minutes to complete it. Fill in the following blanks with the missing code (pay close attention to syntax!)

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| #include <iostream>  #include <string>  using namespace std;  class Robot {  public:  // Default Constructor (initialize name to Iron Giant and height to 15 meters)    // Parameterized Constructor (initialize name and height to input variables)  public:  // method dance (print a message saying that ‘name’ dances)  // method getInfo (print this robot’s name and height)  private:  string name;  int height;  };  int main() {  cout << "TOOP Lab 6 (Last Lab!)\n";  Robot ironGiant;  ironGiant.dance();  ironGiant.printInfo();  } |

Write short (2-3 sentences) explanations of the following ideas:

1. What is Inheritance? Give an example of when you might use inheritance for a specific programmatic relationship. Hint: consider concepts like abstraction and code-reuse.
2. In the context of your Robot project due soon, explain why an object oriented approach makes sense. Consider concepts like code reuse, ownership of variables, and scalability of the project. A good idea might be to consider the imaginary scenario where we had to control multiple robots.