Advanced Object Oriented Programming – Inheritance,

super, Polymorphism

1. Suppose that a program contains the following classes.

class A {

public A() {

System.out.print(“A”);

}

}

class B extends A {

public B() {

System.out.print(“B”);

}

}

What, if anything, would be printed by each of the following statements if they appeared in the main method of the program?

* + 1. A a = new A();

prints: “A”

* + 1. B b = new B();

prints “AB”

* + 1. A c = new B();

prints “AB”

1. Suppose a program is to use the classes Book and History (extending Book).
   1. In which class should each of the following fields be declared:

* title - Book and History
* timePeriod - History
* author - Book and History
  1. Write a constructor for the class Book with header

public Book (String title, String author)

{

this.title = title;

this.author = author;

}

* 1. Write a constructor for the class History with header

public History (String title, String author, String timePeriod)

{  
 super(title,author);

this.timePeriod = timePeriod;

}

* 1. Write a toString method for the Book class.

public String toString()

{

return "Title: "+ this.title+ " Author: " + this.author;

}

* 1. Write a toString method for the History class.

public String toString()

{

return super.toString() + " Time Period: "+timePeriod;

}

NOTE: For 2b, 2c, 2d and 2e, you DO NOT HAVE to write them in a .java file that executes. You may simply write the method in your google docs file that contains your answer to part 1.

If you would PREFER to write them in a java file, you may, but understand that your classes will not (and do not have to) build -- they will only do so if you fully implement the Book class. You are only expected to write the methods stated.