Homework 8

Due: Tuesday 2/26 at 11:59pm

Complete the following problems. Submit them by sending dbunde@knox.edu an email with the subject line “Submitting HW 8”.

1. (4 points) Write a class Art that will represent a single piece of art. The class should have a pair of String attributes storing the name of the piece and the artist. In addition, you should have an ArrayList of strings to store keywords that describe it. Your class should have the following methods:
   • A constructor that takes the name of the piece and the artist. It should also create the list for keywords.
   • A method getName that takes no arguments and returns the name of the piece.
   • A method getArtist that takes no arguments and returns the artist’s name.
   • A method addKeyword that takes a string and adds it to the list of keywords describing the piece.
   • A method matches that takes a string and returns whether it appears in the list of keywords describing the piece.

2. (6 points) Write a class Gallery that represents a collection of artworks. Its only attribute should be an ArrayList containing Art objects. Your class should have the following methods:
   • A constructor that takes no arguments and creates an empty gallery.
   • A method addPiece that takes an Art object and adds it to the gallery.
   • A method printCollection that takes no arguments and prints the name and artist for each piece (one piece per line).
   • A method numBy that takes an artist’s name and returns the number of pieces by that artist in the Gallery.
   • A method numMatching that takes a keyword and returns the number of pieces of art in the Gallery that have that are described by that keyword.