```
1  package Assign_5_B;
2
3  import Media.*;                  // for Pictures and Sounds
4  import java.awt.*;               // for Color objects and methods
5  import static java.lang.Math.*;  // for math constants and functions
6  import static java.awt.Color.*;  // for Color constants
7
8
9  /** This class is supposed to create an echo effect on a sound clip, however I
   could not produce the full echo effect.
10   *
11   * @author Sawyer Fenwick st # 6005011
12   * @version 1.0 Novemeber 18 2016
   */
13
14 public class Echo {
15
16   // instance variables
17   private SoundPlayer player;
18
19     /** This constructor creates a and places a sound on a sound player, allowing
   the user to hear it before
20       * creating the echo effect. It runs the echoSound method which creates a new
   sound which is an echo of the
21       * original sound file.*/
22
23     public Echo ( ) {
24
25       Sound original;
26       Sound echoSound;
27       // local variables
28
29       player = new SoundPlayer();
30       original = new Sound();
31       player.placeSound(original);
32       player.waitForUser();
33       echoSound = echo(original, 0.50, 0.25);
34       player.placeSound(echoSound);
35
36       player.close();
37       // statements including call to method
38
39     }; // constructor
40
41     // methods
42     private Sound echo (Sound aSound, double delay, double factor){
43
44       int num = aSound.getNumSamples();
45       int rate = aSound.getSampleRate();
46       int delayNum = (int)(rate*delay);
47       int total = delayNum + num;
48
49       int counter = 0;
50       int counter2 = delayNum;
51       int counter3 = num;
52
53       Sound result = new Sound(total, aSound);
54       result.save();
55
56       //part one "This"
57       for(int j = 0; j < delayNum - 1; j ++){
58           int amp = aSound.getSample(j).getAmp();
59           result.getSample(counter).setAmp(amp);
60           counter = counter + 1;
61         }
62         //part two "This + This is a test"
63         for(int x = 0; x < num - 1; x ++){
64           int ampEcho = (int)(aSound.getSample(x).getAmp()*factor);
65           int ampRest = aSound.getSample(x).getAmp() - aSound.getSample(x).getAmp()
   - delayNum;
```

```
66            int amp = ampEcho + ampRest;
67            result.getSample(counter).setAmp(amp);
68            counter = counter + 1;
69
70            /* if(x == num -1){
71            for(int y = num; y < total - 1; y ++){
72              int ampFinal = (int)(aSound.getSample(y).getAmp()*factor);
73               result.getSample(counter3).setAmp(ampFinal);
74               counter3 = counter3 + 1;
75               }
76              }*/
77          }
78
79          //My attempts at getting the 3rd part (the echo) of the program to run
80
81
82          //part three "This + This is + is + a + a + test + test"
83          /*     for(int y = 0; y < total - 1; y ++){
84      int amp1 = (int)(aSound.getSample(y).getAmp()*factor);
85              int ampR = aSound.getSample(y).getAmp() - num;
86              int ampFinal = amp1 + ampR;
87              result.getSample(counter).setAmp(ampFinal);
88              counter = counter + 1;
89              }*/
90
91          //PART THREE?
92
93          /*     for(int y = num; y < total - 1; y ++){
94      *
95            int amp = (int)(aSound.getSample(y).getAmp()*factor);
96            int ampRest = aSound.getSample(y).getAmp() - aSound.getSample(y).getAmp()
    - num;
97            result.getSample(counter3).setAmp(amp);
98            counter3 = counter3 + 1;
99
100           } */
101
102         //part three
103         /*   for(int i = 0; i < total - 1; i ++){
104       int ampRest = aSound.getSample(i).getAmp() - aSound.getSample(i).getAmp() -
    num;
105           int amp = (int)(ampRest*factor);
106           result.getSample(counter).setAmp(amp);
107           counter = counter + 1;
108         } */
109
110         /*     for (Sample s : aSound){
111          int amp = s.getAmp;
112          s.setAmp((int)(amp*factor));
113          } */
114
115         return result;
116
117     }// echo
118
119
120     public static void main ( String[] args ) { Echo s = new Echo(); };
121
122
123 } // Echo
```