

CSE 8A Programming Assignment 6

Name should be formatted as (last, first)

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Sound Exploration

```
public static void main(String[] args){

    //sound 1
    CSE8ALib.play(conCAT());

    //sound 2
    CSE8ALib.play(mixingthings());

    //sound 3 is a famous Chinese song by Jay Chou)
    //it is called GAOBAIQIQIU "love Confession"
    //I played one part of the chorus from it
    int[] part1 = jaychou1();
    int[] part2 = jaychou2();
    CSE8ALib.play(concatSounds(part1, part2));

}
```

```

static int[] conCAT() {
    int[] sound = CSE8ALib.readSound("sounds/UpbeatFunk.wav");
    int[] sub1 = subSamples(sound, 0, 44100);
    int[] sosoft = changeVolume(sub1, 0.5);
    int[] sub2 = subSamples(sound, 44100, 88200);
    int[] soloud = changeVolume(sub2, 5);
    int[] conDOG = concatSounds(sosoft, soloud);
    return conDOG;
}

```

```

static int[] mixingthings() {
    int[] sound1 = CSE8ALib.readSound("sounds/UpbeatFunk.wav");
    int[] sound2 = CSE8ALib.readSound("sounds/UpbeatFunk.wav");
    int[] part1 = subSamples(sound1, 0, 100000);
    int[] part2 = subSamples(sound2, 10000, 110000);
    int[] finall = mix(part1, part2);
    return finall;
}

```

```

static int[] jaychoul() {
    double B = 987.77;
    double Db = 1108.73;
    double Eb = 1244.51;
    double E = 1318.51;
    double Ab = 830.61;
    double Gb = 1479.98;

    int[] sound1 = cosineSound(8000, B, 10000);
    int[] sound2 = cosineSound(8000, E, 10000);
    int[] sound3 = cosineSound(22000, Eb, 10000);
}

```

```
int[] sound4 = cosineSound(8000, E, 10000);
int[] sound5 = cosineSound(16000, Eb, 10000);
int[] sound6 = cosineSound(16000, Db, 10000);
int[] sound7 = cosineSound(22000, B, 10000);
int[] sound8 = cosineSound(8000, Db, 10000);
int[] sound9 = cosineSound(16000, Eb, 10000);
int[] sound10 = cosineSound(16000, B, 10000);
int[] sound11 = cosineSound(16000, Ab, 10000);
int[] sound12 = cosineSound(8000, B, 10000);
int[] sound13 = cosineSound(16000, Gb, 10000);
int[] sound14 = cosineSound(8000, B, 10000);
int[] sound15 = cosineSound(8000, Eb, 10000);
int[] sound16 = cosineSound(12000, Eb, 10000);
int[] sound17 = cosineSound(28000, 10, 100);

int[] combines1 = concatSounds(sound1, sound2);
int[] combines2 = concatSounds(sound3, sound4);
int[] combined1 = concatSounds(combines1, combines2);
int[] combines3 = concatSounds(sound5, sound6);
int[] combines4 = concatSounds(sound7, sound8);
int[] combined2 = concatSounds(combines3, combines4);
int[] combcomb1 = concatSounds(combined1, combined2);

int[] combines5 = concatSounds(sound9, sound10);
int[] combines6 = concatSounds(sound11, sound12);
int[] combined3 = concatSounds(combines5, combines6);
int[] combines7 = concatSounds(sound13, sound14);
int[] combines8 = concatSounds(sound15, sound16);
int[] combined4 = concatSounds(combines7, combines8);
int[] combcomb2 = concatSounds(combined3, combined4);
```

```

int[] combcomb3 = concatSounds(combcomb1, combcomb2);

int[] SONG = concatSounds(combcomb3, sound17);
return SONG;

}

static int[] jaychou2() {
    double B = 987.77;
    double Db = 1108.73;
    double Eb = 1244.51;
    double E = 1318.51;
    double Ab = 830.61;
    double Gb = 1479.98;
    double Abup = 1661.22;

    int[] sound1 = cosineSound(8000, B, 10000);
    int[] sound2 = cosineSound(8000, E, 10000);
    int[] sound3 = cosineSound(22000, Eb, 10000);
    int[] sound4 = cosineSound(8000, E, 10000);
    int[] sound5 = cosineSound(16000, Eb, 10000);
    int[] sound6 = cosineSound(16000, Db, 10000);
    int[] sound7 = cosineSound(22000, B, 10000);
    int[] sound8 = cosineSound(8000, Db, 10000);
    int[] sound9 = cosineSound(16000, Eb, 10000);
    int[] sound10 = cosineSound(22000, Abup, 10000);
    int[] sound11 = cosineSound(16000, Eb, 10000);
    int[] sound12 = cosineSound(8000, Ab, 10000);
    int[] sound13 = cosineSound(16000, B, 10000);
    int[] sound14 = cosineSound(16000, Db, 10000);

```

```
int[] sound15 = cosineSound(16000, B, 10000);

int[] combines1 = concatSounds(sound1, sound2);
int[] combines2 = concatSounds(sound3, sound4);
int[] combined1 = concatSounds(combines1, combines2);
int[] combines3 = concatSounds(sound5, sound6);
int[] combines4 = concatSounds(sound7, sound8);
int[] combined2 = concatSounds(combines3, combines4);
int[] combcomb1 = concatSounds(combined1, combined2);

int[] combines5 = concatSounds(sound9, sound10);
int[] combines6 = concatSounds(sound11, sound12);
int[] combined3 = concatSounds(combines5, combines6);
int[] combines7 = concatSounds(sound13, sound14);
int[] combined4 = concatSounds(combines7, sound15);
int[] combcomb2 = concatSounds(combined3, combined4);

int[] SONG = concatSounds(combcomb1, combcomb2);
return SONG;

}
```

Part 2 Description:

Describe the three sounds you produced and how you produced them. What did you like about this process? What challenges did you run into during this process and how did you resolve them?

The first sound I produced does a change volume using subSamples and concatenating these two together. I made a first part in which the sound was softer then a second in which the sound was louder. Both having the same length. I did not run into any challenges during this section. I liked that I could created a suddenly change in sound. It could be cool for music when I wanted to add some effects

The second sound I made was mixing two sounds. First I used subSamples to target which part of the sound file I wanted to listen to, then I made two sub samples. The second part being 10000Hz apart from the first one but still having the same length. Then I mixed these sounds and it makes them stagger and I thought it was a fun sound. I liked that I could play something over something else here.

The last sound I made was part of a chorus of a famous chines sound by Jay Chou called 告白气球 gaobaiqiu "Love Confession" and I looked up the sound frequency for musical notes because I am a musician and used cosineSounds to create them (being able to adjust length as well). Then I assigned these sounds variables named after note names making it easier to organize each sound. After that I basically had to use concatSounds a bunch of times because I could only do each note two at a time. So for every two times I used cosinesSounds, I used concatSounds once. I thought the challenging part was the number of times I had to do this process because the amount of notes I wanted to make was a lot given that this is a song. I liked that I could make music with this process. Due to this, I decided to make my code out of the main method then call it later in the main method to play it so it would be better organized.

Make-up Credit

Include screenshots of the rubric item you fixed along with your submission, the update you made to fix it, and a brief description of why the fix works and was necessary.

The screenshot displays a submission interface for a programming assignment. On the left, a code editor shows a Java program for currency conversion. The code includes two test cases: one for 150.0 USD and another for 0.55 USD. A comment explains the choice of these values. A 'Part 1 Known Bugs or Issues' section is present, with a justification for the chosen values. On the right, a rubric table evaluates the submission. The rubric has five questions, with the first two being the most relevant to the fix. The first question, 'Part 1: Code', is worth 7/7 points. The second question, 'Part 1: Testing and Known Bugs', is worth 1.5/4 points. The rubric items for the second question are: 'Less than 3 unique program interactions shown' (-1 pts), 'Does not show user input and program output' (-1 pts), 'Program interaction is clearly wrong or outputs error' (-0.5 pts), and 'No Known Bugs/Issues Justification beyond "I think it's right/my tests worked" or no extension added' (-0.5 pts). At the bottom, a terminal window shows the execution of the Java program, demonstrating the correct output for the provided inputs.

convertAndCompare(150.0)
The conversion of 150.0 USD to CNY is 1037.826

convertAndCompare(0.55)
The conversion of 0.55 USD to CNY is 3.8053620000000006

I chose these three interactions because they were all different sizes. One is large, one is small, and one is normal. This makes sure that it will be able to work for all numbers. In addition I chose to use decimals because I wanted to use the double return type, this way I would be able to have a more exact conversion.

Part 1 Known Bugs or Issues:
If you have any known bugs or issues with your code, let us know here. If you think it works correctly, justify why.

I think that it works perfectly because I used a variety of numbers. It works for the function of converting from one currency to another.

Need to show compiling and running code file [#2, #3]

Missing user input [#5]

Hide Text

TOTAL POINTS
8.5 / 20 pts

QUESTION 1
Part 1: Code 7 / 7 pt

QUESTION 2
Part 1: Testing and Known Bugs 1.5 / 4 pt

- 0 pts Correct

✓ - 0.5 pts javac <filename> Interaction is not shown

✓ - 0.5 pts Java <filename> Interaction is not shown

- 1 pts Less than 3 unique program interactions shown

✓ - 1 pts Does not show user input and program output

- 0.5 pts Program interaction is clearly wrong or outputs error

✓ - 0.5 pts No Known Bugs/Issues Justification beyond "I think it's right/my tests worked" or no extension added

QUESTION 3
Part 2 0 / 9 pt

QUESTION 4
Star Point 0 / 0 pt

QUESTION 5
Part 3: (Optional) PA2 Makeup 0 / 0 pt

C Q

```
C:\Users\guyit\OneDrive\Documents\CSE 8A>Java PA4
Enter currency in USD: 9500.0
The conversion of 9500.0 USD to CNY is 65728.98
C:\Users\guyit\OneDrive\Documents\CSE 8A>Java PA4
Enter currency in USD: 150.0
The conversion of 150.0 USD to CNY is 1037.826
C:\Users\guyit\OneDrive\Documents\CSE 8A>Java PA4
Enter currency in USD: 0.55
The conversion of 0.55 USD to CNY is 3.8053620000000006
```

```
C:\Users\guyit\OneDrive\Documents\CSE 8A>Java PA4
Enter currency in USD: 9500.0
The conversion of 9500.0 USD to CNY is 65728.98
C:\Users\guyit\OneDrive\Documents\CSE 8A>Java PA4
Enter currency in USD: 150.0
The conversion of 150.0 USD to CNY is 1037.826
C:\Users\guyit\OneDrive\Documents\CSE 8A>Java PA4
Enter currency in USD: 0.55
The conversion of 0.55 USD to CNY is 3.8053620000000006
```

I had to show the user input and this was a common mistake that I made in previous PAs but this one I showed it the wrong way. This time I believe that I understand what I have to do now.

		<pre>int num1 = 3; return x * y * num1; } static String num1 = "love"; static void myfunc2(String x) { System.out.println(x + num1 + " you"); }</pre>
Output of the program (for example, in IDLE), including any error message output	<pre>>>> myfunc2("I") I love you >>> myfunc(1,2) 6</pre>	<pre>24 I love you</pre>
Description in 2-3 sentences of whether you think the statement is true and why your program gives evidence for that conclusion	As seen here, the statement is true for python. In this situation, num1 will be both a string and an integer. According to this example, it would work if the first function had num1 in its definition and then num1 defined outside of the function and it, therefore still in the program. Using it like this, it could work.	As seen here, the statement is also true for java. The variable num1 will be both a string and an integer. As seen here, if used in different methods and defined in the first method then later outside of method 2 then it will be able to function still.

Statement 3: The < operator produces an error when used on two strings.

X Hide Text

- 0.5 pts Missing output in Python OR Java (not both)

- 0.5 pts (2C): Missing or insufficient explanation

Statement 3

- 1.5 pts (3A): Missing program in Python AND Java (code can be in shell/interactions)

- 1 pts Missing program in Python OR Java (not both)

- 1 pts (3B): Missing output in Python AND Java

- 0.5 pts Missing output in Python OR Java (not both)

- 0.5 pts (3C): Missing or insufficient explanation

- 0.5 pts Demonstrably incorrect description

✓ - 999 pts DON'T PANIC.

We thought your submission demonstrated an opportunity for learning. Follow the suggested feedback labeled "(Required) Learning Opportunity" to create another example. Submit the requested program and the output from it that demonstrates what the feedback asks as a REGRADE REQUEST on this part of the PA, and you will get the credit back for this rubric item.

- 3 pts Did not follow directions and chose statements not listed on the PA worksheet

	Python	Java
Program that demonstrates if the statement is true or not	<pre>def myfunc(x, y): return x < y</pre>	<pre>class forfun { public static void main(String[] args) { String str1 = "Joe"; String str2 = "Harry"; System.out.println(str1 < str2); } }</pre>
Output of the program (for example, in IDLE), including any error message output	<pre>>>> myfunc("cat", "dog") True</pre>	<pre>C:\Users\guyt\OneDrive\Documents\CSE &A>javac forfun.java forfun.java:5: error: bad operand types for binary operator '<' System.out.println(str1 < str2); ^ first type: String second type: String 1 error</pre>
Description in 2-3 sentences of whether you think the statement is	As we see here, this statement is true for python. There was no error for using the boolean < with strings. This is due to alphabetization. In the alphabet, c comes	In java, the statement is apparently false. In this example, since H comes before J, then the result should be false. However, given that strings are objects, they cannot

C
Q
Q

QUESTION 4

Star Point

QUESTION 5

Part 3: (Optional) PA2 Makeup

0 / 0 pts

0 / 0 pts

RESULT:

1 error

The mistake that I made earlier is that I made a num1 inside and a num1 outside the method, this led to the problem of them being two different variables. After I fixed that, I realized that having the variable already defined then defining it again will just simply give me an error.