

CSC104 Assignment #2

- Q1.** What is the two's complement of the number 17?
What is the two's complement of the number 46?
What is the two's complement of the number -32?
What is the two's complement of the largest possible number representable in two's complement using only 4 bits?
What is the two's complement of smallest (most negative) possible number representable in two's complement using only 4 bits?
- Q2.** Write a function which when **given** a sound will **return** the smallest value in that sound. Do not play the sound or print anything to the screen. You should ensure your function runs, and attempt to check your answer using media tools.
- Q3.** Write a function which when **given** a sound will count the number of times that sound is 0 and will **return** that value. Do not play the sound or print anything to the screen. You should ensure your function runs, and attempt to check your answer using the media tools.
- Q4.** Use the techniques covered in the in-class demo of the `generalCopy`, `generalClip` and `createNewPreamble` functions to combine three words from the `mediasource` folder into an `audioSentence` (which is to be the name of your function). You should use `getMediaPath` to load your files, and you may assume that we have correctly set the media path for you. You are to **take no inputs** and **return** the sound containing the combination of the three words.
- Load 2 words of your choice from the `mediaSources` file into their own soundfiles. Load the `preamble10.wav` soundfile, and clip the word `United` from it. Include a 10th of a second pause between words. You can figure out how long this is by using the `getSampleRate` function. If for some reason different files use different rates (they shouldn't) use the rate of the file before rather than the one after. Include comments identifying what your words are and how long they are.

Mark Breakdown and Filenames:

- Q1. 10 marks, use filename `a2answers`
Q2. 15 marks, use filename `smallestValue.py`
Q3. 15 marks, use filename `count.py`
Q4. 60 marks, use filename `audioSentence.py`

Additional Support:

There are 5 lab hours per week, 8 hours per week of help center support hours. There will be 2 additional support hours for both Test 1 and Assignment 2 (Monday) and 2 additional support hours for Assignment 2 (Wednesday). I will also have some additional office hours, which will be scheduled in class the day you get this sheet. Check the website for updates (FAQs and clarifications) to the assignment.