AP CSP Python with CodeX **Mission 5 Assignment**	**Name:**
Getting Started	
Computers and music go great together! This project brings together coding, electronics and music. Review the mission reminders. Then go to Mission 5 and get started.	
Warm Up Go through the slides "Analog and Digital Data." Answer the questions below.	
What is analog? Give an example.	Analog is infinite variations in something. For example, temperature.
What is digital? Give an example.	Digital is finite levels of something. For example, temperature. Instead of infinite variations, there specific increments of temperature.
How do computers work with analog data?	The computer takes samplings of the analog data and converts it to digital data.
Mission 5 : Micro Musician Objectives	
Complete Objective 1 Read ALL the information. Click on audio to add it to your toolbox. Explain how the microphone works. Explain how the speaker works. Explain what the CODEC is and what it does.	The microphone samples a sound wave and converts it to a list of numbers using ADC (Analog to Digital Conversion). The speaker works like the microphone, but in reverse. Numbers go in the DAC (digital to Analog Converter) and analog voltage levels come out to produce sound. The CODEC is a chip in the CodeX that has an ADC and DAC. It combines the coder/decoder. It is used for audio functions, like playing an MP3 or recording your voice.
Complete Objective 2 Read ALL the information. Take notes in the space provided. What type of audio file will the CodeX play?	MP3 files
Complete Objective 3 Read ALL the information. Take notes in the space provided. What is the purpose of blank lines?	Blank lines make code more readable by separating portions of code without affecting how it works. The computer ignores blank lines.

Complete Objective 4 Click on CodeX sound to add it to your toolbox. Paste a snippet that shows all the pre-loaded audio files on CodeX.	
Complete Objective 5 Take notes in the space provided. List two ways to increase the readability of your code. What is a comment, and what symbol is used to start a comment? Scroll down the toolbox and read about doc strings. NOTE: a docstring can be made with three double quotes (“””) or three single quotes (‘’’). Add a docstring to the top of your program.	Two ways to increase readability are to use descriptive variable (and function) names, and to use comments. A comment is a note in the code about what the code is doing. It is ignored by the computer. A comment starts with a hashtag: #
Take the quiz. How did you do?	Answers will vary
Complete Objective 6 Read ALL the information. Take notes in the space provided.	Space for notes as needed

CodeX Sounds	sounds/...		
a.mp3	eight.mp3	off.mp3	six.mp3
africa.mp3	five.mp3	okay.mp3	techstyle.mp3
b.mp3	four.mp3	on.mp3	ten.mp3
bohemia.mp3	funk.mp3	one.mp3	three.mp3
button.mp3	led.mp3	power.mp3	two.mp3
codetrek.mp3	left.mp3	right.mp3	up.mp3
codex.mp3	mic.mp3	roll.mp3	welcome.mp3
display.mp3	nine.mp3	seven.mp3	yes.mp3
down.mp3	no.mp3	shire.mp3	zero.mp3

EXTENSIONS

- Create a string variable for the audio file and use it in your code
- Program several buttons to play music
- Before the music plays, add one or more of these:
  - Turn on the color of the pixels
  - Display an image
  - Fill the screen with a color

Submit the completed Music1 program to the teacher.