

For my first major authoring project, I decided to try and relate it to my major, which is Computer Science. We are currently learning how to program using Python 3, and I wanted to learn a bit more about it while doing this project and also connecting it to DTC 101. I went for numerical representation as a focus of my new media object, so I wrote a program that converts any text into eight bit binary, which can then be translated directly back into the text you entered using an outside program or web converter. I had very little experience using Python 3, and the only thing I really knew how to do was define functions and get user input. I had to do quite a bit of research on the internet to try and figure out what I needed to do. I had to figure out how to take a user's input and then convert it to binary. There were a lot of topics online which vaguely answered my question, but not in the exact manner I needed. A lot of the examples had to do with Python 2.7 which has a lot of formatting and syntax issues when trying to use with Python 3. The example codes I came across also had formatting issues with the output of the converted text. The main function in the program called toBinary accepted the user's input as an argument and converted each letter of the string into an eight bit byte to represent the binary code for each letter. I had to fix the format of the output by joining each byte into a continuous string, then found out the program was taking off the zeroes in front of each byte, so I found another way to represent the binary that included the zeroes by switching from 'b' to '08b'.

Here is the program text:

```
def getInput():  
    print(str("My name is Kyle Lumague."))  
    print(str("Here is my DTC 101 major authoring project."))  
    x = str(input("Enter text to be converted: "))  
    return x  
  
def toBinary(x):  
    x = ".join(format(ord(i), '08b') for i in x)  
    print(x)  
    return x  
  
toBinary(getInput())
```

Here is an example run of the code:

My name is Kyle Lumague.

Here is my DTC 101 major authoring project.

Enter text to be converted: Hello

0100100001100101011011000110110001101111