

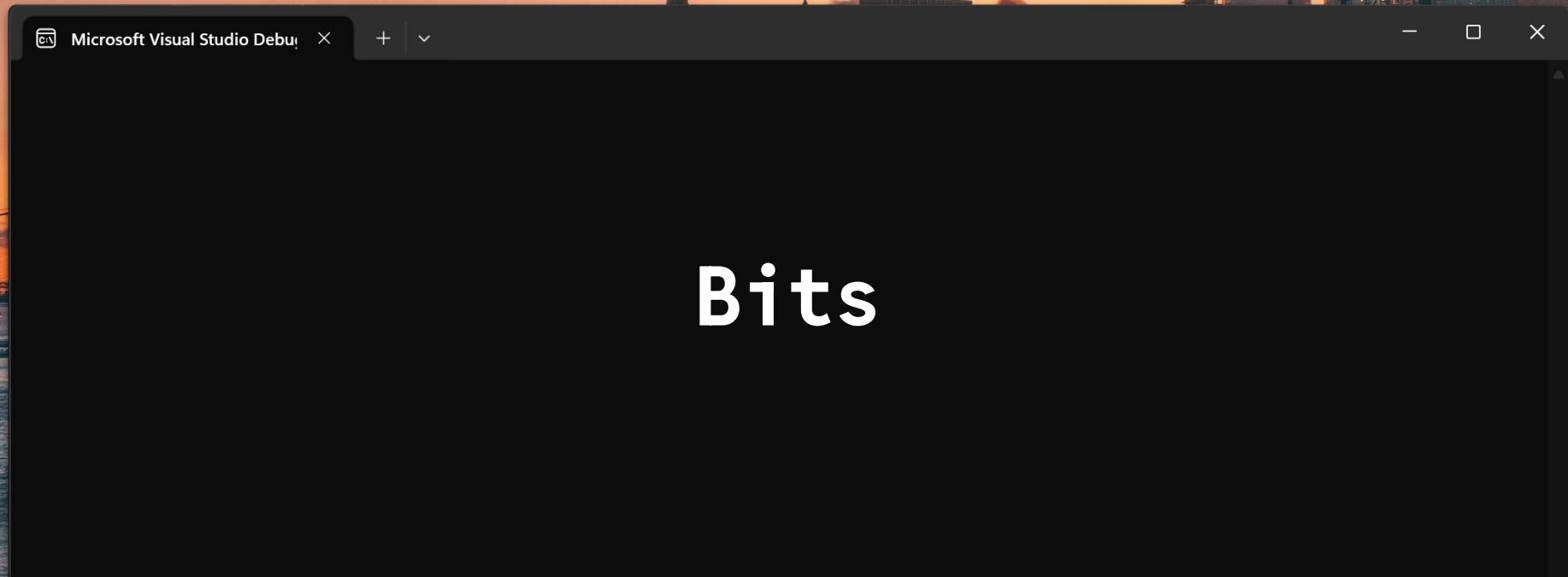
Microsoft Visual Studio Debug

Byte-old & Bitwise

Week 4

```
C:\Users\brend\source\repos\VGATestProject\x64\Release\VGATestProject.exe (process 70484) exited with code 0.  
Press any key to close this window . . .
```

Bits



Bits?

Computers like 2s not 10s:

000000

Digits: 100000, 10000, 1000, 100, 10, 1

Bits: 32, 16, 8, 4, 2, 1

1 Byte = 8 Bits

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Bitwise Operations

Operators

<< (Bitshift Left)

b00011000 << 2

b01100000

>> (Bitshift Right)

b00011000 >> 2

b00000110

~ (NOT)

~b00011000

b11100111

| (OR)

b00011000 | b00110000

& (AND)

b00011000 & b00110000

^ (XOR)

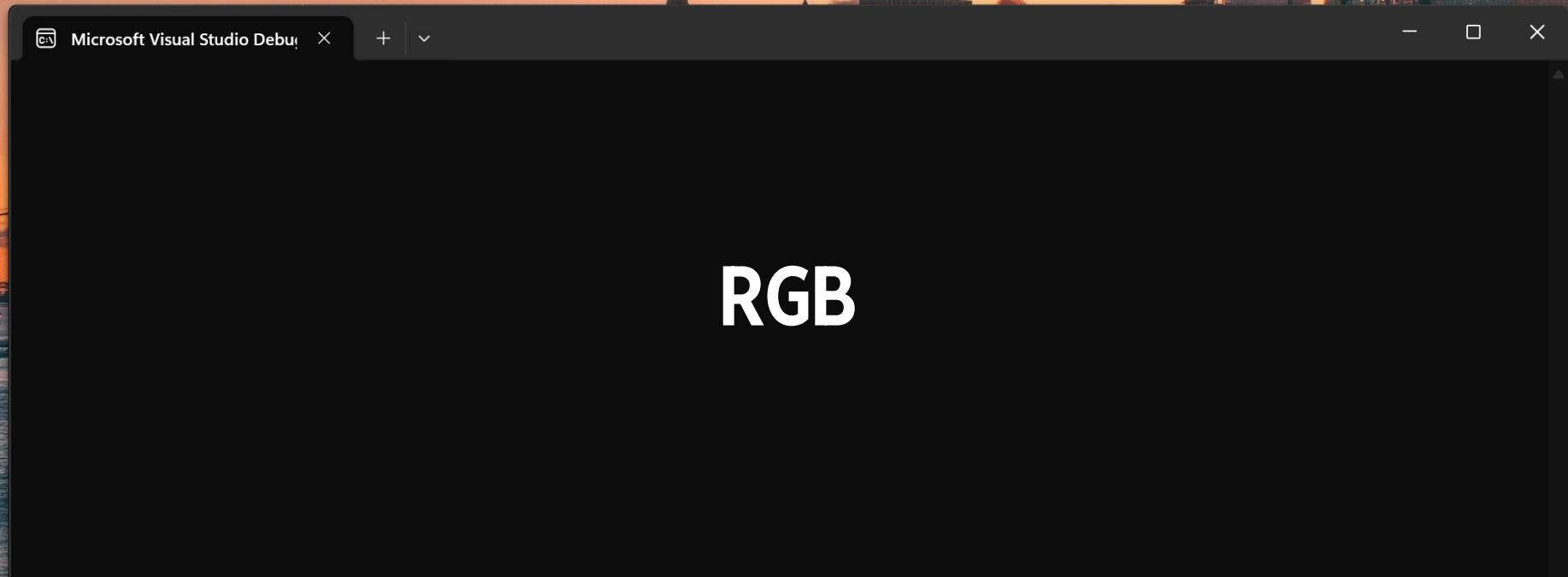
b00011000 ^ b00110000

b00111000

b00010000

b00101000

RGB



One Number?

RGB is typically represented with just one 3 byte (24 bit) number.

Each color is 1 Byte (0 to 255)

Since ints are 32 bit, an RGB value looks like:

00000000 RRRRRRRR GGGGGGGG BBBB BBBB



Assignment

Add Color Data to Video Buffer

Add color data to last weeks program. Have those colors print to the screen with ANSI codes.

I will show as much of this process as I can during class!

```
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