MTH 337 Sample Quiz 5

You will have **15 minutes** to take the actual quiz.

1. Complete the following table.

Color	RGB tuple
Red	(1,0,0)
Green	
	(0,0,1)
	(1,1,0)
Cyan	
	(1,0,1)

2. Use array broadcasting to recreate the "target array"

$$
\begin{bmatrix}
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \\
0 & 1 & 2 & 2 & 2 & 2 & 2 & 1 & 0 \\
0 & 1 & 2 & 3 & 3 & 3 & 2 & 1 & 0 \\
0 & 1 & 2 & 3 & 4 & 3 & 2 & 1 & 0 \\
0 & 1 & 2 & 3 & 3 & 3 & 2 & 1 & 0 \\
0 & 1 & 2 & 2 & 2 & 2 & 2 & 1 & 0 \\
0 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0
\end{bmatrix}
$$

3. Describe in words what the command `np.transpose(A,(1,0,2))` does to a 3D array.

4. Use concatenation to build the array
$$
\begin{bmatrix}
1 & 1 & 2 & 2 & 3 \\
1 & 1 & 2 & 2 & 3 \\
1 & 1 & 2 & 2 & 3 \\
4 & 4 & 5 & 5 & 6 \\
4 & 4 & 5 & 5 & 6
\end{bmatrix}
$$