MTH 337, Sample Quiz 5
Spring 2022

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

1. complete the following table.

Color	RGB definition
Red	
Cyan	
	(0,1,0)
	(1,0,1)

2. Use array broadcasting to recreate the following matrix:

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

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

4. Use the array

$$A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \\ 5 & 6 \end{bmatrix}$$

to build the array

$$B = \left[\begin{array}{cc|cc|c} 1 & 2 & 1 & 2 & 1 \\ 3 & 4 & 3 & 4 & 3 \\ 5 & 6 & 5 & 6 & 5 \\ \hline 1 & 2 & 1 & 2 & 1 \\ 3 & 4 & 3 & 4 & 3 \end{array}\right].$$