Date: June 11, 2020

Exercise 1. Using matrix operations, write up the code to calculate a given problem.

$$\begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix} + \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix} + \begin{pmatrix} 2 & 2 & 2 \\ 2 & 2 & 2 \\ 2 & 2 & 2 \end{pmatrix} - \begin{pmatrix} 1 & 1 & 1 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix} \times \begin{matrix} 1 & 1 \\ 1 & 1 \\ 1 & 1 \end{matrix}$$

Expected Answer:

$$\begin{matrix} 5 & 5 \\ 8 & 8 \\ 8 & 8 \end{matrix}$$

Hint: You can initialize a small matrix manually as follows.

$$\begin{matrix} 1 & 1 & 1 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{matrix}$$

```
=>Mat term3 = (Mat_<float>(matrixSize1) << 1, 1, 1, 0, 0, 0, 0, 0, 0);
```