MATH022 M2 PART 1 TEST CASE

1. Generate the following matrices:

a. $$A = \begin{bmatrix} 5 & 1 & 2 \\ 1 & 3 & 7 \\ 2 & 7 & 8 \end{bmatrix}$$

b. $$A = \begin{bmatrix} -1 \\ 2 \\ -4 \\ 5 \end{bmatrix}$$

c. $$A = \begin{bmatrix} 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{bmatrix}$$

d. $$A = [2 \quad 1 \quad 3 \quad 6 \quad 7]$$

2. Perform the following:

Given Matrices	Operation	Answer
$A = \begin{bmatrix} 2 & 1 & 3 \\ 3 & -2 & 1 \\ -1 & 0 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -2 \\ 2 & 1 \\ 4 & -2 \end{bmatrix}$	Addition	Not Possible
$[2\ 1\ 3] \begin{bmatrix} -2 \\ 1 \\ -3 \end{bmatrix} =$	Multiplication	-12

$F+H=\begin{bmatrix}2&-1\\3&0\\-5&2\end{bmatrix}+\begin{bmatrix}1&6\\-1&-2\\0&-3\end{bmatrix}$	Addition	$=\begin{bmatrix}3&5\\2&-2\\-5&-1\end{bmatrix}$
$C-A=\begin{bmatrix}3&-1\\-2&2\end{bmatrix}-\begin{bmatrix}2&0\\1&4\end{bmatrix}$	Subtraction	$=\begin{bmatrix}1&-1\\-3&-2\end{bmatrix}$
$AB=\begin{bmatrix}1&0&-3\\-2&4&1\end{bmatrix}\begin{bmatrix}1&0&4&1\\-2&3&-1&5\\0&-1&2&1\end{bmatrix}$	Multiplication	$\begin{bmatrix}1&3&-2&-2\\-10&11&-10&19\end{bmatrix}$
$C=\begin{bmatrix}1&-2\\0&4\\-3&1\end{bmatrix}$ and $D=\begin{bmatrix}2&-1\\3&0\end{bmatrix}$	Multiplication DC	Not Possible