**King Saud University**

**Third Homework**

**352 math**



**Part 1 ( Matrix Operations)**

1. Write any correct Matlab code to create a matrix M that is 5x5 array of zeros with a 1 in the middle of it.
2. Suppose Q is a vector. Write any correct Matlab code to change any 1 in the vector to 5.

 for example:

 if Q= $\left[\begin{matrix}9&67&\begin{matrix}-1&43.75&1\end{matrix}\end{matrix}\right]$, then it should become $\left[\begin{matrix}9&67&\begin{matrix}-1&43.75&5\end{matrix}\end{matrix}\right]$

 if Q= $\left[\begin{matrix}7.5&1&3\end{matrix}\right]$, then it should become $\left[\begin{matrix}7.5&5&3\end{matrix}\right]$

**Part 2** **(Plotting)**

 Write any correct Matlab code to plot $f(x)=\sin(x)$ and $g(x)=\cos(x)$ satisfying the following:

* The graph’s color of *f* is blue and *g* is green.
* Label the axis as x-axis and y-axis.
* Point to the intersection points with red arrows.
* Name the Graph.