**Assignment3**

**Question 1:-**

Given the gradient values in x and y directions for a 3\*3 window of an image as shown in below, compute the autocorrelation matrix used in harris’s conrner detector.

$I\_{x}=\left[\begin{matrix}0&0&0\\-0.2&0.15&-0.2\\0.2&0.02&-0.01\end{matrix}\right]$ $I\_{y}=\left[\begin{matrix}0&0&0\\0.02&0.2&0.02\\0.15&0.05&0.15\end{matrix}\right]$

**Question 2:-**

 For each of the following diagonalized autocorrelation matrix, compute harris’s cornerness scores and determine whether there is a corner, vertical edge, horizontal edge, or none of them existing. Consider the threshold for corner response to be 10.

 $M\_{1}=\left[\begin{matrix}9&0\\0&8\end{matrix}\right]$,$ M\_{2}=\left[\begin{matrix}10&0\\0&0.5\end{matrix}\right]$, $M\_{3}=\left[\begin{matrix}0.02&0\\0&0.05\end{matrix}\right]$, $M\_{4}=\left[\begin{matrix}0.1&0\\0&20\end{matrix}\right]$