***Here,***

*The **1st Diagonal Vector,** is passing through the point **(0, 0) to (4,4).***

***We know,***

## *Parametric – Eq of the 1st Diagonal,*

$\therefore \vec{r}(t) = (\ t\ ,\ t\ )$

***So, When N = 5***

***Range of*** $t$ ***is :*** $(\ 0 < t < 5\ )$

***Then,***

***When*** $t = 0$, $\vec{r}(0) = (\ 0, 0\ )$

***When*** $t = 1$, $\vec{r}(1) = (\ 1, 1\ )$

***When*** $t = 2$, $\vec{r}(2) = (\ 2, 2\ )$

***When*** $t = 3$, $\vec{r}(3) = (\ 3, 3\ )$

***When*** $t = 4$, $\vec{r}(4) = (\ 4, 4\ )$

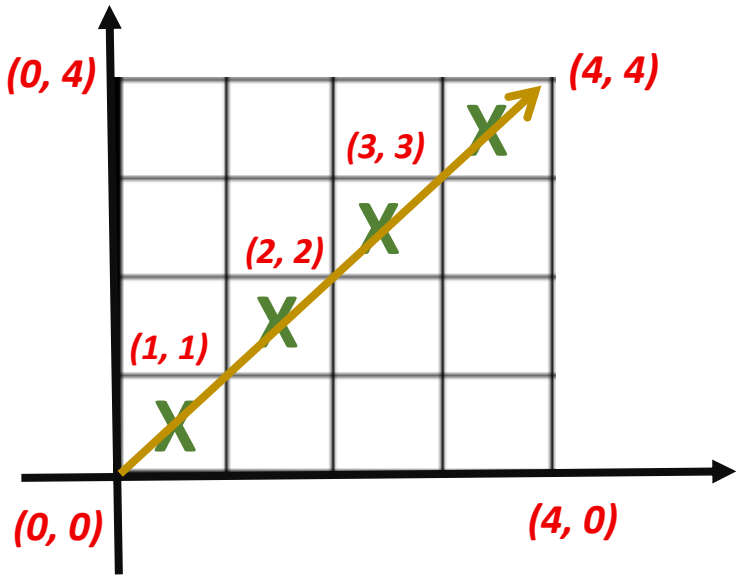


*Fig (i) : 1st Diagonal in the Tic – Tac – Toe Board*

***Therefore,***

***When*** $N = 5$ ***, the 1st Diagonal consists of these points are*** $(0,0), (1,1), (2,2), (3,3), (4,4)$.

*The **2nd Diagonal Vector,** is passing through the point **(4, 0) to (0,4) .***

***We know,***

## *Parametric – Eq of the 2nd Diagonal,*

$\therefore \vec{r}(t) = (\ N - 1 - t,\ t\ )$

***When N = 5***

***Range of*** $t$ ***is :*** $(\ 0 < t < 5\ )$

***Then,***

***When*** $t = 0$, $\vec{r}(0) = (\ 4, 0\ )$

***When*** $t = 1$, $\vec{r}(1) = (\ 3, 1\ )$

***When*** $t = 2$, $\vec{r}(2) = (\ 2, 2\ )$

***When*** $t = 3$, $\vec{r}(3) = (\ 1, 3\ )$

***When*** $t = 4$, $\vec{r}(4) = (\ 0, 4\ )$

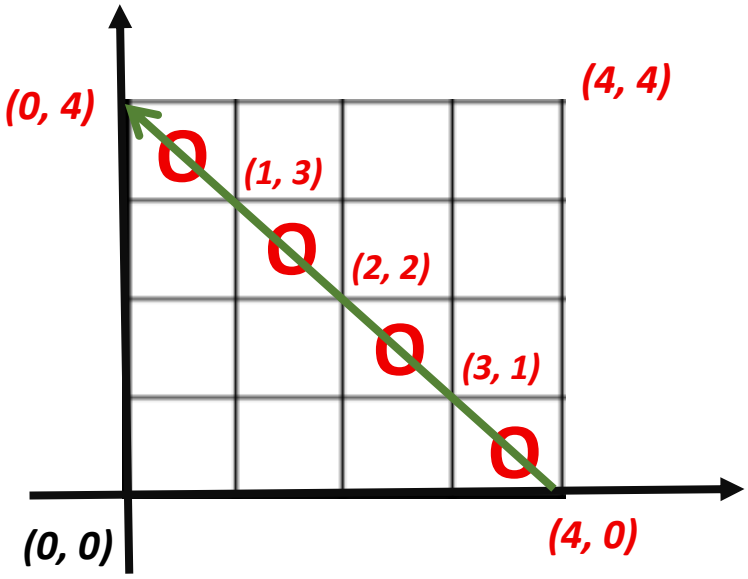


*Fig (ii) : 2nd Diagonal in the Tic – Tac – Toe Board*

***Therefore,***

***When*** $N = 5$ ***, the 2nd Diagonal consists of these points are*** $(4,0), (3,1), (2,2), (1,3), (0,4)$.