Objective:

- The purpose of this quiz is to focus on the very basic fundamental concepts practiced so far in previous lectures.

Question No 1: **(3)**

Consider a 2-D array of size NxM with each dimension starts from k (can be positive or negative). Devise Row-Major mapping for NxM array to 1-D array of size NxM with starting index = 0.

Index in 0 Based 1-D Array = $(abs(i_1) - k) * M + abs(i_2) - k$

Where i_1 = row number, and i_2 = column number

Question No 2: **(5)**

Devise a formula for storing following N order symmetric sparse matrix.

*	*	*	*	*
			*	
		*		
	*			
*	*	*	*	*

Sparse Matrix of Order N: where * shows the non-zero values

```
int mapping(int i, int j, int N)
{
    if (i == 0)
        return j;
    else if (i+j==N-1)
        return N+i-1;
    else if (i == N-1)
        return N+N-2+j;
    return -1;
}
```