```
def STORE_TRIANGULAR(A):
    i = 0
    U = []
    size_of_lst = int(0.5 * len(A) * (len(A) + 1))

for size in range(size_of_lst):
    U.append(0)

for j in range(len(A)):
    for k in range(j + 1):
        U[i] = A[j][k]
        i += 1

return U

triangular_matrix = [[-4, 0, 0, 0], [65, -88, 0, 0], [-24, -41, 59, 0], [-7, -32, -14, -99]]
print("Triangular Matrix : ", triangular_matrix)

unidimensional_array = STORE_TRIANGULAR(triangular_matrix)
print("After Storing Triangular Matrix into Unidimensional : ", unidimensional_array)
```

```
Triangular Matrix : [[-4, 0, 0, 0], [65, -88, 0, 0], [-24, -41, 59, 0], [-7, -32, -14, -99]]

After Storing Triangular Matrix into Unidimensional : [-4, 65, -88, -24, -41, 59, -7, -32, -14, -99]
```

```
Unidimensional array : [-4, 65, -88, -24, -41, 59, -7, -32, -14, -99]
Retrieving Triangular Matrix from Unidimensional array: [[-4, 0, 0, 0], [65, -88, 0, 0], [-24, -41, 59, 0], [-7, -32, -14, -99]]
```

```
def RETRIEVE_TRIANGULAR(U, n):
    A = []
    for i in range(n):
       new_lst = []
            new_lst.append(0)
        A.append(new_lst)
               A[j][k] = 0
               A[j][k] = U[int(0.5*j*(j+1)+k)]
unidimensional_array = [-4, 65, -88, -24, -41, 59, -7, -32, -14, -99]
converted_triangular_matrix = RETRIEVE_TRIANGULAR(unidimensional_array, 4)
print("Retrieving Triangular Matrix from Unidimensional array: ", converted_triangular_matrix)
import numpy as np
from scipy.sparse import csr_matrix
matrix_3x6 = [[44, -859, 0, 0, 0, 0], [77, -668, 549, 0, 0, 0], [0, -123, 46, -85, 0, 0]]
converting_into_dense_Array = np.array(matrix_3x6)
print("Matrix of (3 x 6) into Dense Array : ")
print(converting_into_dense_Array)
print()
CSR_Sparse_Representation = csr_matrix(converting_into_dense_Array)
print("CSR Sparse Representation of Dense Array : ")
print(CSR_Sparse_Representation)
print()
retrieve_dense_Array = csr_matrix.todense(CSR_Sparse_Representation)
print(retrieve_dense_Array)
print()
```

```
Matrix of (3 x 6) into Dense Array :
[[ 44 -859 0
                         0]
                     0
                 Θ
[ 77 -668 549 0
                         Θ]
                     Θ
[ 0 -123 46 -85
                         0]]
                     0
CSR Sparse Representation of Dense Array :
 (0, 0)
          44
 (0, 1)
         -859
 (1, 0)
         77
 (1, 1) -668
 (1, 2) 549
        -123
46
 (2, 1)
 (2, 2)
 (2, 3)
         -85
Retrieving Dense Array from CSR Sparse Representation :
[[ 44 -859 0 0 0
                         0]
[ 77 -668 549 0
                         0]
                     0
                         0]]
[ 0 -123 46 -85
                    0
```