TED UNIVERSITY

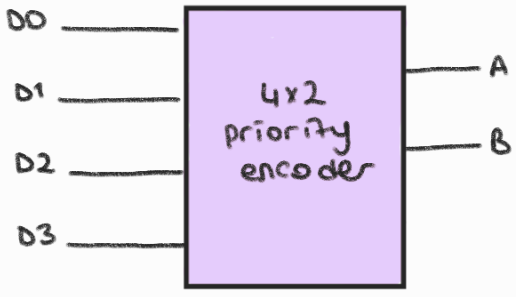
EE207 DIGITAL DESIGN LABORATORY

EXPERIMENT – 2 Laboratory Report Assignment

1. Please write the **4x2 priority encoder truth table**.
2. Explain the function of priority encoders (max 10 sentences).
3. Write the **Implementation Constraints File** (.ucf file) for the 4x2 priority encoder.

Melisa Subaşı
id: 22829169256

1) 4x2 priority encoder truth table.



D0	D1	D2	D3	A	B
0	0	0	0	X	X
1	0	0	0	0	0
X	1	0	0	0	1
X	X	1	0	1	0
X	X	X	1	1	1

2) Function of priority encoder:

Priority encoder is a circuit or algorithm that compresses multiple binary inputs into a smaller number of outputs. The output of a priority encoder is the binary representation of the index of the most significant activated line, starting from zero. They often used to control interrupt requests by acting on the highest priority interrupt input.

3) Implementation Constrains File (.ucf file) for 4x2 priority encoder:

```
# inputs

NET "input(D0)"  LOC = "P11" ;
NET "input(D0)"  LOC = "L3" ;
NET "input(D1)"  LOC = "K3" ;
NET "input(D2)"  LOC = "B4" ;
NET "input(D3)"  LOC = "G3" ;

# OUTPUTS

NET "output(A)"  LOC = "LD0" ;
NET "output(B)"  LOC = "LD1" ;
```