



$$\text{First} = t_{u,v,0}$$

$$\text{Second} = t_{u,v,1}$$

$$\text{Top} = t_{u-1,v,1}$$

$$\text{Bottom} = t_{u+1,v,0}$$

$$\text{Right} = t_{u,v+1,1}$$

$$\text{Left} = t_{u,v-1,0}$$

$$\text{GID} = 2 \cdot (u \cdot (N-1) + v) + k$$