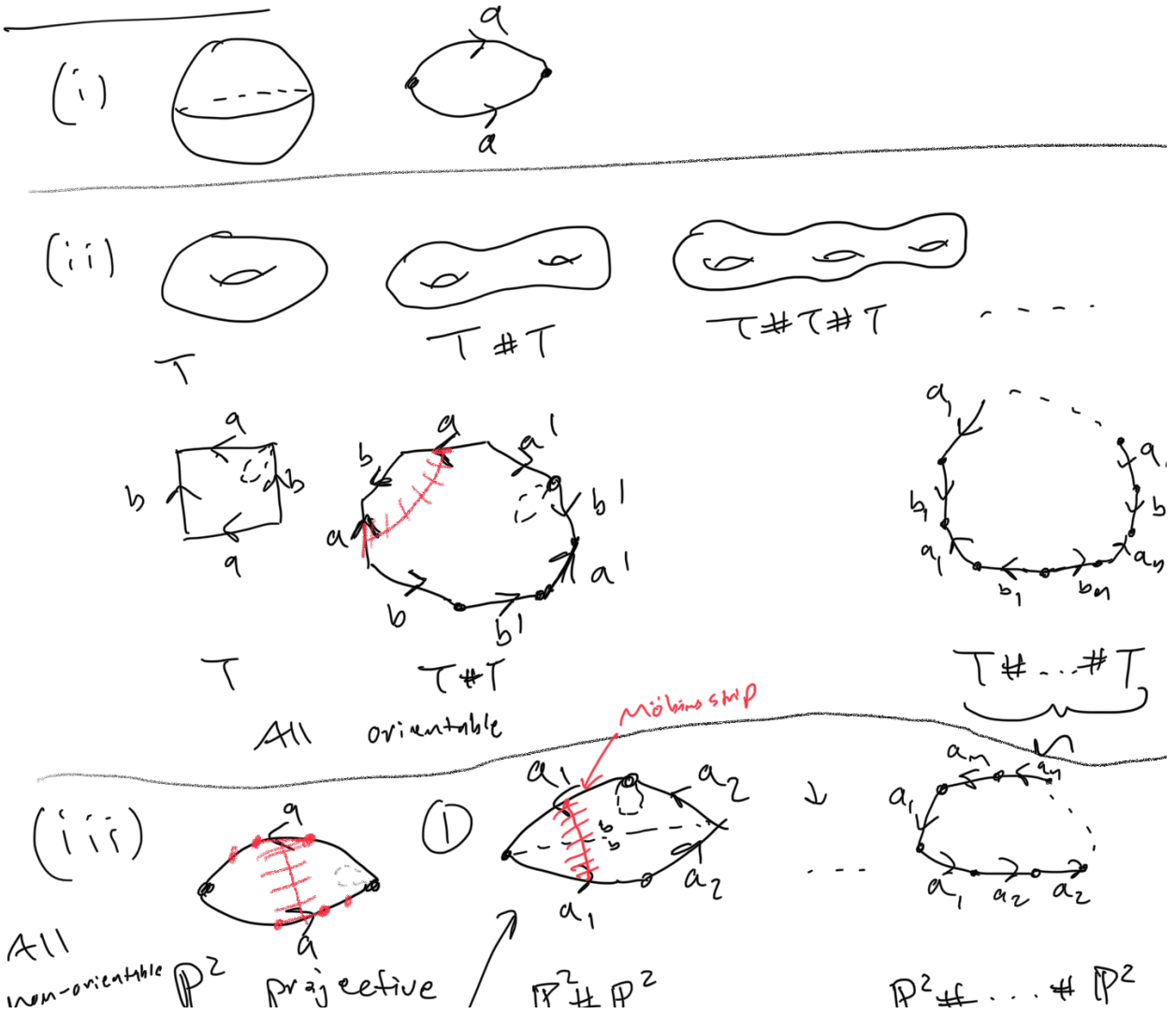


Classification of surfaces

Thm (Classification of Surfaces) Any connected, compact surface (2-manifold without boundary) is homeomorphic to either

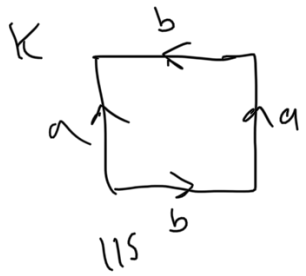
- (i) a sphere
- (ii) connect sum of  $n$  tori
- (iii) connect sum of  $n$  projective planes.

Next few lectures: Prove this  
Later: Any two surfaces above are non-homeomorphic



"plane / 1 + "

"  
M



115  
Klein bottle K

