Depth Complexity

- The hardware *paints* each pixel many times, performing expensive per-pixel shading operations.

- No contribution from *invisible fragments*.
**Visibility**

- **Exact Visibility** – identify polygon fragments that are visible from a viewpoint [Sutherland et. al. 74].

- Paints each pixel *exactly* once.

- Unfortunately:
  - A scene containing \( n \) polygons can have \( O(n^2) \) fragments.
  - Known algorithms are *complex* and hard to implement in interactive applications.

- Hardware *z-buffer* algorithm is widely used.