

2.5) TRANSFORMATION INVARIANTS:

Transformation invariants are properties or characteristics of objects that remain unchanged under specific transformations. In computer graphics, understanding transformation invariants is crucial for preserving certain aspects of objects despite changes in position, orientation, or scale. Common transformation invariants include:

1. TRANSLATION INVARIANCE:

- Certain properties of objects, such as their center of mass or geometric features, remain invariant (unchanged) under translation (movement) operations.

2. ROTATION INVARIANCE:

- Rotation invariance implies that certain properties of an object, such as its orientation or angular relationships between components, remain constant under rotational transformations.

3. SCALE INVARIANCE:

- Scale invariance indicates that certain properties of an object are preserved regardless of changes in size or scale. For example, the aspect ratio of an object may remain constant.

4. AFFINE INVARIANCE:

- Affine transformations include combinations of translations, rotations, scalings, and shears. Affine invariance implies that certain geometric relationships and ratios are maintained under such transformations.

5. INVARIANT DESCRIPTORS:

- Invariant descriptors are specific features or characteristics of an object that are designed to remain constant or exhibit predictable behavior under various transformations.

CCS333-AUGMENTED REALITY/VIRTUAL REALITY

