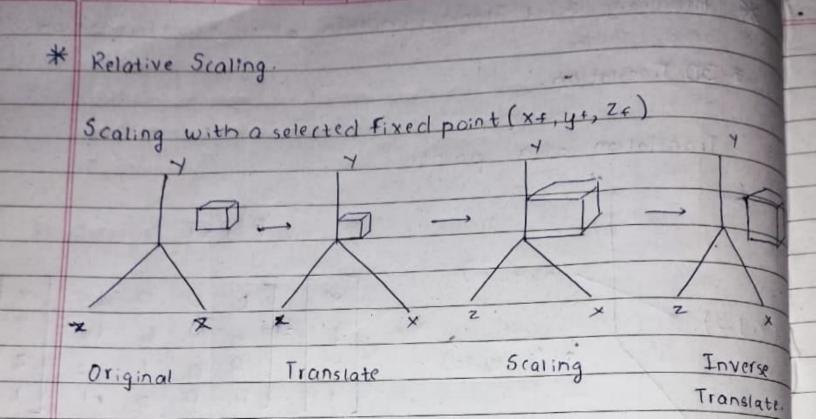
| 1) | () Rotation Dimensional Transformation of the |
|------|---|
| | |
| | - A 2D trotation is applied to an object by Table |
| | repositioning it along circular path in thexyplane |
| | centreel at pivot point. To dollar sest los it mosp |
| item | position, or enter or size are called goomstric transfe |
| | We can write the components: |
| | P'x = Px (OS 0 - Pysino. MITAICHART (1 |
| | +P'y=Pxsin0+Pycos0. calvoca cases asito mon as |
| | from one position to another parallel to steelf. |
| | or in matrix form, |
| - 7 | collected Pla Rope, value of by a region of diag and |
| | shift verter. |
| | 0 can be clockwise (-ve) or counterclockwise (+ve) |
| | Rotation Matrix strangeries 4174 100 377 |
| | xj+x9=x9. |
| | R= (050 -sin0 |
| | [sin0 cos0] |
| | or in Matrix from: |
| | 7+9=19 |
| | (x) + (x) = (x) |
| | [x, 1/1] [x] |
| | |
| | |
| | (6) |
| | 100 (01 |
| | |
| | Before Rotation |
| | |
| | Before Translation After Langlations |
| | |

| 2/(0) | Scaling |
|-------|---|
| | oni rosele (+) |
| | Scaling changes the size of an object and involves |
| -11 | two scale factors, sx and sy for the x-axis and y-axis |
| | respectively me togld not o good out estatibilities |
| | Honestermed shape appears as if the objectis silds over |
| | P'x=Sx * px - wipsond 'zo hellon si myo behand to |
| | P'y=Sy*Py " "Good bollo ullbroissono sironte" |
| | |
| | Or in Matrix form, pl=S*pi = cxslid mission X |
| | |
| | Scale Matrix, S = Sx O O Sy |
| | 1 Specific Colors |
| | *Uniform Scaling*: |
| | Scaling where Horizontal & Vertical factors are same is |
| | Uniform Scaling. |
| | |
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| | COI |
| |) |
| | Before Scaling> After Scaling. |
| | * Non Uniform Scaling: |
| | |
| | |
| | |
| | (6) |
| |) |
| | |

| . 9 | (0) | Three - Dimensional Scaling. |
|-----|------|--|
| | - | Constitution of the state of th |
| | - | Charles the Cize UT William |
| | | Scaling in 3D can be represented by a scaling vectors in |
| | | Scaling matrix. |
| | | Scaling matrix. |
| | | C Dearly bei Vitamer TS, S, S, 1. |
| | | Scaling vector V is defined as [5x 5y 5z]. |
| | | organic soft callog westers |
| | 10 | Scaling matrix(sv) in 3D-space with scaling vectors |
| | | Visgiven by, |
| | | * serven co-endinate system (Image space) |
| | | Sv= Sx O Ob policie de de la secreta de la s |
| | 1324 | |
| * | | bear 0, 0 Szy veter étorido doidans enge |
| | | |
| | | [P'] = [P] [Sy] (maged of apparent) what is a solution of |
| | 3 | Visual representation of agrice to continue to continue to |
| | | $\begin{bmatrix} p' \end{bmatrix} = \begin{bmatrix} x & y & z \end{bmatrix} \begin{bmatrix} Sy & 0 & 0 \\ 0 & Sy & 0 \end{bmatrix}$ |
| | | |
| | | LO O Sz. Joitemplein Ministra |
| | | The process of mapping from a world window to a |
| | | where P' is transformed. |
| | | |
| | | tipecusiv * |
| | | -A rectangle on rester graves screen (or dimplow) |
| | | define who the image will appears usually metro |
| | | I Name |
| | | |
| | | |
| | | |
| | | Before Scaling -> After Scaling |
| | | Before Scaling After Scaling. |
| | 7 | |

the sale of the sale of the 3D Scaling. Viriform Scaling (Scaling relative to co-ordinate origin). x1=x +5x , y1=y*5y , z1= z*5z P'=P * 5 5x 0 0 0 = 0 \$y 0 0 0 0 5z 0





* Explain Cohen-Sutherland Line Clipping Algorithm

A)=

COHEN-SUTHERLAND divides a two-dimensional space into 9 regions and then efficiently determines the lines and portions of lines that are inside the given rectangular area.

The algorithm can be outlines as follows:

Nine Regions are created, eight "outside regions and one "inside" region.

findit's region's four bit code · Four bit code can be computed by comparing x and y with four values.

(x-min, x-max, y-min and y-max).

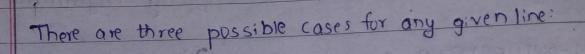
If x is less than x-min then bit number 1 is set.

If x is greater than x-max then bit number 2 is set.

If y is less than y-min then bit number 3 is set.

If y is greater than y-max then bit number 4 is set.

| Table 1 | | |
|--------------|--|------|
| BOTTOM RIGHT | | |
| TOP → 100 | 1000 | 1010 |
| | | |
| 0001 | 0000 | 0010 |
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| | | |
| 0101 | 0100 | 0110 |
| | | |



- 1. Completely inside given rectangle: Bitwise OR of region of two and points of line is 0 (Both points are inside the rectangle)
- 2. Completely outside given rectangle: Both endpoints share atleast one outside region which implies that line cloesn't cross visible region.
- 3. Partially inside window: Both endpoints are in different regions. In this case, the algorithm finds one of two points outside rectangular region.

| | 0110 | Politi | | |
|---------------------------|--|--|----------------------------|--|
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| | | (Sanfordis | Partially inside | A STATE OF THE STA |
| | | | (x-min,y-max) | The state of the s |
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| - | completely | Serriun. | completely | |
| | outside | | inside | (x-max, y-max) |
| | | | | c zilan, y |
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| | - | 1 | | |
| | | | | |
| | (x-min,y-m | oin) | partially | (x_max, y-min) |
| The state of the state of | | | inside | |
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| 110 | AND REAL PROPERTY AND ADDRESS OF THE PARTY AND | THE RESERVE THE PARTY OF THE PA | | |

| | Suderh - 3067 5 |
|--------------------|---|
| (5) | Reflection. |
| | * Viewing and Modelling |
| | · Reflection is the mirror image of original Object. |
| 9/ | Reflection on both x and y co-ordinates can be |
| | represented as joint for establica, asking to short |
| | where an image usil be displayed. This rectangle will be |
| | [R'] -> Matrix for Reflection: Traplus V bello |
| | |
| | · saise [R'] 2×2 = an lette @ letter of brown * |
| | world we want to view of the co-dinate wild to |
| | define that some is world co-ordinates? |
| | Let: Initial co-ordinates of 0: (x,y) |
| | Final co-ordinates of o (xiy!) |
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| | Before Reflection -> After Reflection. |
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| - | |
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| + | 3 5 6 X |
| 1 | (119 9132) |
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| 1 | 3 |
| THE REAL PROPERTY. | |