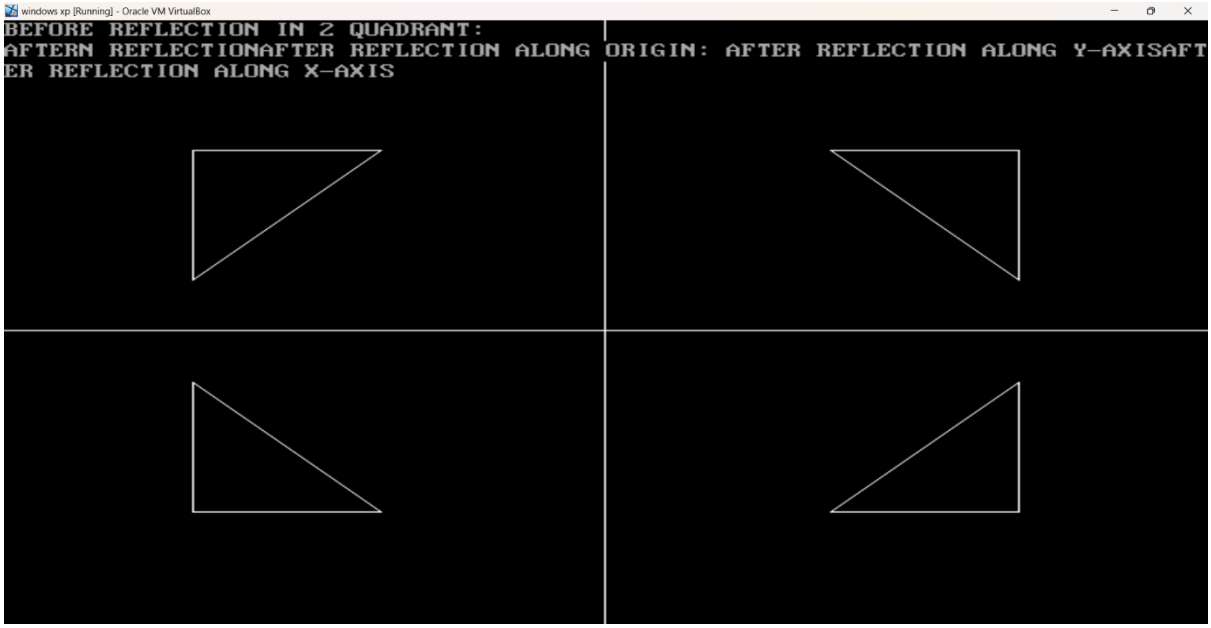
# Reflection

```c
#include <stdio.h>
#include <conio.h>
#include <graphics.h>

void main()
{
    int gm, gd = DETECT;
    int ax, x1 = 100, x2 = 100, x3 = 200, y1 = 100, y2 = 200, y3 = 100;
    initgraph(&gd, &gm, "");
    line(getmaxx() / 2, 0, getmaxx() / 2, getmaxy());
    line(0, getmaxy() / 2, getmaxx(), getmaxy() / 2);

    printf("BEFORE REFLECTION IN 2 QUADRANT: ");
    setcolor(15);

    line(x1, y1, x2, y2);
    line(x2, y2, x3, y3);
    line(x3, y3, x1, y1);

    getch();

    printf("\nAFTERN REFLECTION");
    printf("AFTER REFLECTION ALONG ORIGIN: ");
    line(getmaxx() - x1, getmaxy() - y1, getmaxx() - x2, getmaxy() - y2);
    line(getmaxx() - x2, getmaxy() - y2, getmaxx() - x3, getmaxy() - y3);
    line(getmaxx() - x3, getmaxy() - y3, getmaxx() - x1, getmaxy() - y1);

    getch();

    printf("AFTER REFLECTION ALONG Y-AXIS");
    line(getmaxx() - x1, y1, getmaxx() - x2, y2);
    line(getmaxx() - x2, y2, getmaxx() - x3, y3);
    line(getmaxx() - x3, y3, getmaxx() - x1, y1);

    getch();

    printf("AFTER REFLECTION ALONG X-AXIS");

    line(x1, getmaxy() - y1, x2, getmaxy() - y2);
    line(x2, getmaxy() - y2, x3, getmaxy() - y3);
    line(x3, getmaxy() - y3, x1, getmaxy() - y1);

    getch();
    closegraph();
}
```




# Shearing

```c
#include <stdio.h>
#include <conio.h>
#include <graphics.h>

void main()
{
    int gd = DETECT, gm;
    int x = 100, y = 100, x1 = 100, y1 = 200, x2 = 200, y2 = 100, shear;

    initgraph(&gd, &gm, "");

    printf("ENTER THE SHAERING FACTOR: ");
    scanf("%d", &shear);

    cleardevice();

    line(x, y, x1, y1);
    line(x1, y1, x2, y2);
    line(x2, y2, x, y);

    setcolor(YELLOW);

    x = x + y * shear;
    x1 = x1 + y1 * shear;
```

```
    x2 = x2 + y2 * shear;

    line(x, y, x1, y1);
    line(x1, y1, x2, y2);
    line(x2, y2, x, y);

    printf("ALONG Y-AXIS");
    y = y + x * shear;
    y1 = y1 + x1 * shear;
    y2 = y2 + x2 * shear;

    line(x, y, x1, y1);
    line(x1, y1, x2, y2);
    line(x2, y2, x, y);

    getch();
    closegraph();
}
```