



Morphing 2D

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Materi

- Fungsi Interpolasi 2D
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Fungsi Interpolasi 2D

```
point2D_t interpolate(point2D_t a, point2D_t b, float r)
{
    // 0.0<=r<=1.0 AC:CB=r:(1-r)
    if (r<0.0) r=0.0;
    if (1.0<r) r=1.0;
    point2D_t c;
    float r1=1.0-r;
    c.x=r1*a.x+r*b.x;
    c.y=r1*a.y+r*b.y;
    return c;
}
```

Userdraw(1)

```
void userdraw(void)
{
    static int tick=0;
    int disp=(tick/100)%6;
    float rtick=(tick%100)/80.;
    point2D_t square[40];
    point2D_t pentagram[40];
    point2D_t ngram20[40];
    point2D_t shape[40];
    int i;
    makeSquare(square,150);
    makePentagram(pentagram,150);
    make20gram(ngram20,150);
    setColor(1,1,1);
    drawAxes();
    setColor(0,0,1);
    switch(disp) {
    case 0:
        for(i=0;i<20;i++) {
            shape[i]=interpolate(square[i],pentagram[i],rtick);
        }
        drawPolygon(shape,20);
        break;
    case 1:
        for(i=0;i<20;i++) {
            shape[i]=interpolate(pentagram[i],ngram20[i],rtick);
        }
        drawPolygon(shape,20);
        break;
    }
```

UserDraw(2)

```
case 2:
    for(i=0;i<20;i++) {
        shape[i]=interpolate(ngram20[i],square[i],rtick);
    }
    drawPolygon(shape,20);
    break;

case 3:
    for(i=0;i<20;i++) {
        shape[i]=interpolate(square[i],ngram20[i],rtick);
    }
    drawPolygon(shape,20);
    break;

case 4:
    for(i=0;i<20;i++) {
        shape[i]=interpolate(ngram20[i],pentagram[i],rtick);
    }
    drawPolygon(shape,20);
    break;

case 5:
    for(i=0;i<20;i++) {
        shape[i]=interpolate(pentagram[i],square[i],rtick);
    }
    drawPolygon(shape,20);
    break;

default:
    break;

}
tick++;
}
```