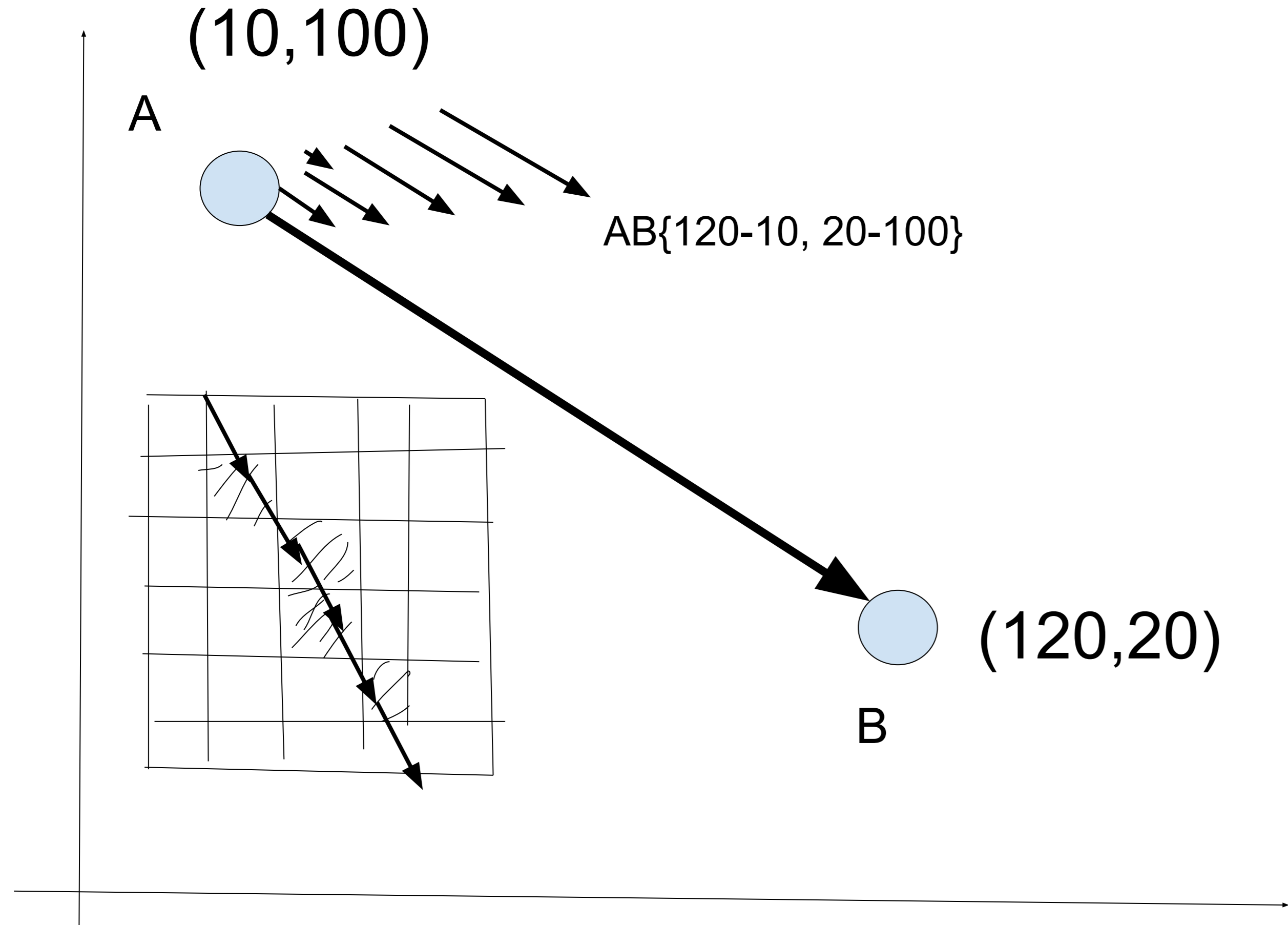


написать ф-ию по рисования отрезка от точки x_1, y_1 до точки x_2, y_2



AB{120-10, 20-100}

(120,20)

minx=10
maxx=120
miny=20
maxy=100

paint_point(minx,miny)

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

```
void paint_segment(int x1, int y1, int x2, int y2, struct point shade)
{
    double dx = x2 - x1;
    double dy = y2 - y1;
    double coef = dy / dx;
    cout << "coef =" << coef << endl;
    int t;
    point red_shade;
    red_shade.red = 255;
    red_shade.blue = 255;
    red_shade.green = 255;
    cout << "x1 =" << x1 << " " << "y1 =" << y1 << endl;
    cout << "x2 =" << x2 << " " << "y2 =" << y2 << endl;
    paint_point(x1, y1, red_shade);
    if(x1 < x2)
    {
        for(int j = x1 + 1; j < x2; j++)
        {
            //cout << coef * j << endl;
            t = (int)(coef * (j - x1));
            paint_point(j, t + y1, shade);
            cout << j << " " << t + y1 << endl;
        }
    }
    if(x1 > x2)
    {
        for(int j = x1 - 1; j > x2; j--)
        {
            //cout << coef * j << endl;
            t = (int)(coef * j);
            paint_point(j, t + y1, shade);
            cout << j << " " << t + y1 << endl;
        }
    }
    paint_point(x2, y2, red_shade);
}
```

```
void paint_vector_segment(int x1, int y1, int x2, int y2, struct point shade)
{
    int v1 = x2 - x1;
    int v2 = y2 - y1;
    double d = sqrt(v1 * v1 + v2 * v2);
    cout << d << endl;
    int param = 5;
    double v1_ed = v1 / (d * param);
    double v2_ed = v2 / (d * param);
    double d_ed = 1 / param;
    double i = 0;
    double j = 0;
    int k = 0;
    while(d_ed < d)
    {
        i += v1_ed;
        j += v2_ed;
        paint_point((int)(i + x1), (int)(j + y1), shade);
        d_ed = sqrt(i * i + j * j);
        k++;
    }
    cout << k;
}
```

координаты вектора

полярные
1) длина
2) угол наклона

сдвиги
1) сдвиг вдоль оси x
2) сдвиг вдоль оси y

