```
void CMFCApplication1View::DDA_line(int B_x, int B_y, int E_x, int E_y, COLORREF col)
//获取鼠标点击时（起点）的参数B_x和B_y，鼠标抬起时（终点）的参数E_x和E_y，线的颜色col
{

    CDC * pDC = GetDC();//建立一个用于图形显示的指针（不需要引用新的头文件，大家复制粘贴即可）
    pDC->TextOut(450, 18, _T("DDA画线法成功了！"));//在屏幕（450，18）的位置显示一个白色底色的黑字：DDA画线法成功了！

    float x, y, dx, dy, k, _k;//浮点型变量x，y，x增量，y增量，斜率，斜率倒数
    float xm, ym;
    dx = E_x - B_x;//算出增量
    dy = E_y - B_y;
    k = dy / dx;//得到斜率&其倒数
    _k = dx / dy;
    x = E_x; xm = B_x;//赋值
    y = E_y; ym = B_y;

    //下面是一个关于斜率的判断，来决定由谁增长的问题
    if (abs(dx) > abs(dy))
    {
        if (B_x <= E_x){ x = B_x; xm = E_x; y = B_y; ym = E_y; }
        for (x; x <= xm; x++)
        {
            pDC->SetPixel(x, (int)(y + 0.5), col);//在屏幕上画col颜色的像素点（像素点位置只能用int型）
            y = y + k;
        }
    }
    else
    {
        if (B_y <= E_y){ x = B_x; xm = E_x; y = B_y; ym = E_y; }
        for (y; y <= ym; y++)
        {
            pDC->SetPixel((int)(x + 0.5), y, col);
            x = x + _k;
        }
    }
}

//中点画线法
void CMFCApplication1View::Mid_line(int B_x, int B_y, int E_x, int E_y, COLORREF col)
{
    CDC * pDC = GetDC();
```

```
    pDC->TextOut(450, 18, _T("中点画线法成功了！"));//因为位置一样，所以覆盖了DDA，并不是之前那行字消失了

    int a, b, d1, d2, d, x, y;
    int dx, dy, num;
    int p, p1, q, q1;

    x = B_x; y = B_y;
    a = B_y - E_y;
    b = E_x - B_x;
    dx = abs(B_x - E_x);
    dy = abs(B_y - E_y);

    if (((E_x - B_x >= 0) && (E_y - B_y < 0)) || ((E_x - B_x <= 0) && (E_y - B_y > 0)))//2象限、4象限
    {
        if ((E_x - B_x <= 0) && (E_y - B_y > 0))
        {
            a = -a; b = -b;        x = E_x; y = E_y;
        }
        if (dx >= dy)
        {
            num = dx;
            p = 1; p1 = 0; q = 1; q1 = -1;
            d = 2 * a - b; d2 = 2 * a; d1 = 2 * (a - b);
        }
        else
        {
            num = dy;
            p = 1; p1 = -1; q = 0; q1 = -1;
            d = a - 2 * b; d1 = -(2 * b); d2 = 2 * (a - b);
        }
    }
    else//1象限、3象限
    {
        if ((E_x - B_x <= 0) && (E_y - B_y < 0))
        {
            a = -a; b = -b;        x = E_x; y = E_y;
        }
        if (dx >= dy)
        {
            num = dx;
            p = 1; p1 = 1; q = 1; q1 = 0;
            d = 2 * a + b; d1 = 2 * a; d2 = 2 * (a + b);
```

```
        }
        else
        {
            num = dy;
            p = 0; p1 = 1; q = 1; q1 = 1;
            d = 2 * b + a; d2 = 2 * b; d1 = 2 * (a + b);
        }
    }

    pDC->SetPixel(x, y, col);

    for (int i = 0; i <= num; i++)
    {
        if (d < 0)
        {
            x += p; y += p1; d += d2;
        }
        else
        {
            x += q; y += q1; d += d1;
        }
        pDC->SetPixel(x, y, col);
    }

}

////////////////////////////////////////////////
//   菜单控制&鼠标、键盘关联函数也会再此自动生成   //
////////////////////////////////////////////////

//起始点赋值
void CMFCApplication1View::OnLButtonDown(UINT nFlags, CPoint point)
{
    // TODO:  在此添加消息处理程序代码和/或调用默认值

    CDC * pDC = GetDC();
    CView::OnLButtonDown(nFlags, point);
    m_B_x = point.x;//将鼠标此时x位置付给变量m_B_x
    m_B_y = point.y;
}

//终点赋值
void CMFCApplication1View::OnLButtonUp(UINT nFlags, CPoint point)
{
```

```
	// TODO:  在此添加消息处理程序代码和/或调用默认值

	CView::OnLButtonUp(nFlags, point);
	m_E_x = point.x;
	m_E_y = point.y;

	switch (Start)
	{
	case 1:DDA_line(m_B_x, m_B_y, m_E_x, m_E_y); break;
	case 2:Mid_line(m_B_x, m_B_y, m_E_x, m_E_y); break;
	}
}

//DDA的菜单响应
void CMFCApplication1View::OnDDA()
{
	// TODO:  在此添加命令处理程序代码
	Start = 1;
}

//中点的菜单响应
void CMFCApplication1View::OnMID()
{
	// TODO:  在此添加命令处理程序代码
	Start = 2;
}
```