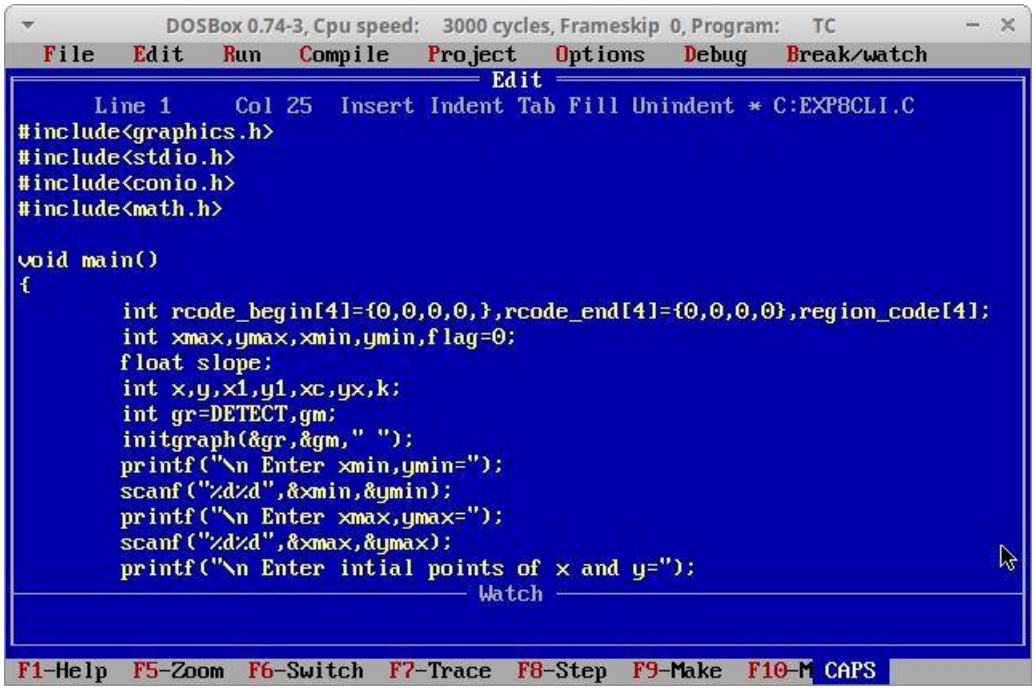
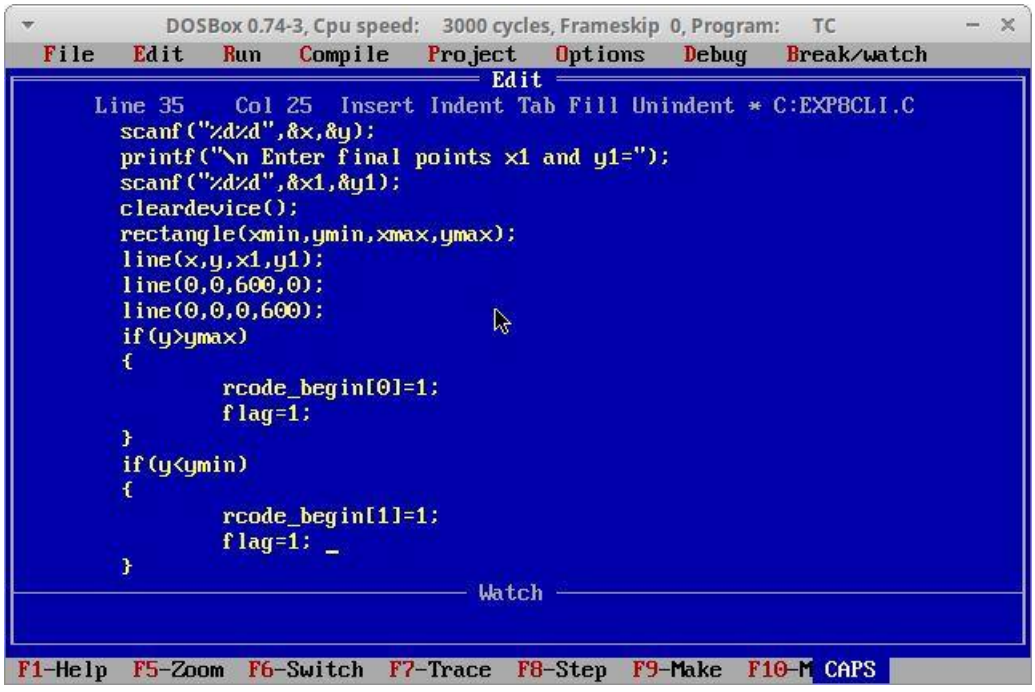
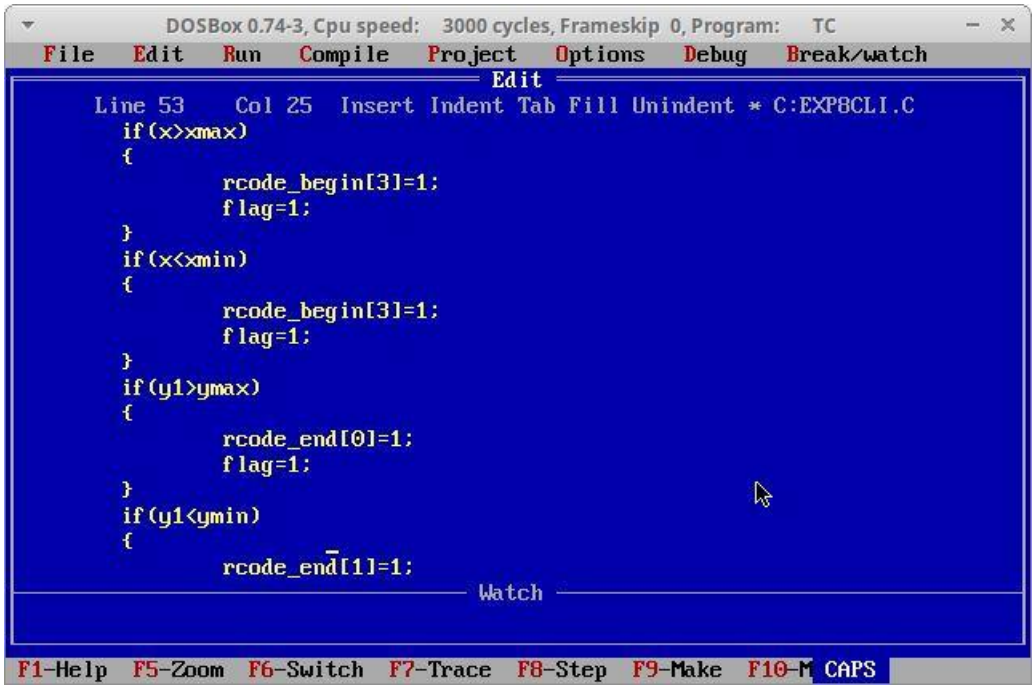
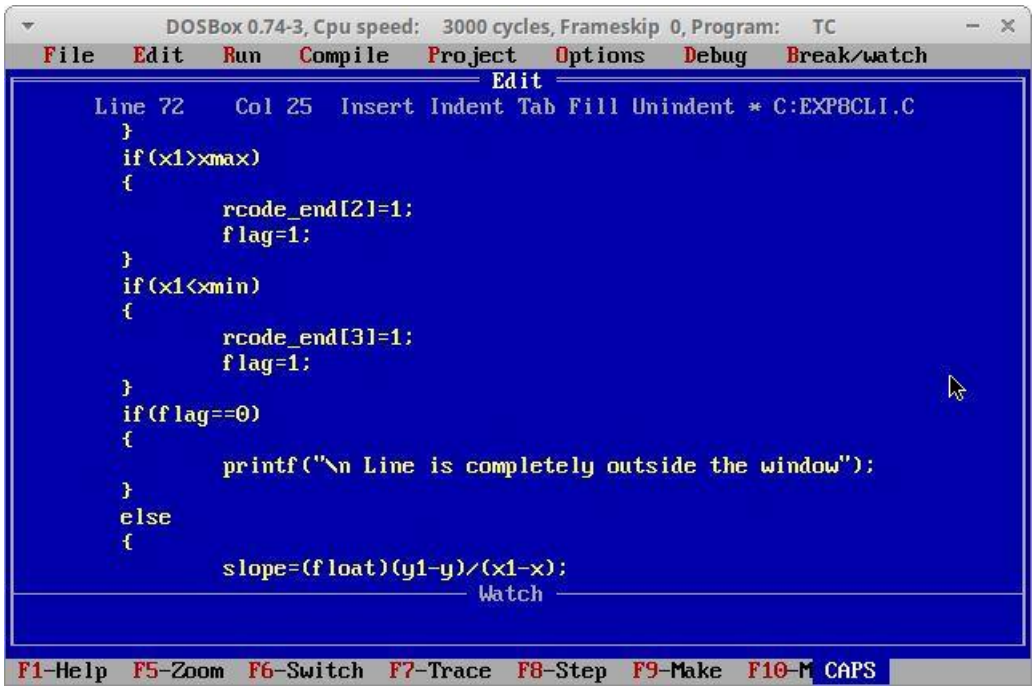
Name: Vivian Vijay Ludrick Branch: SE Comps A Batch C **Rollno: 9914**

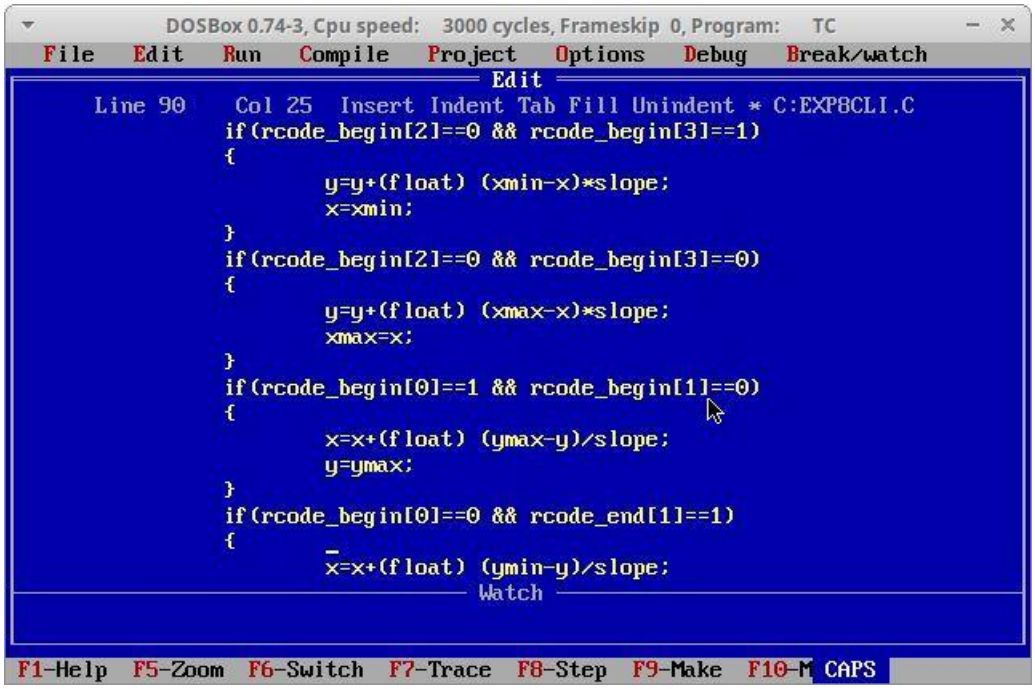
Cohen-Sutherland line clipping

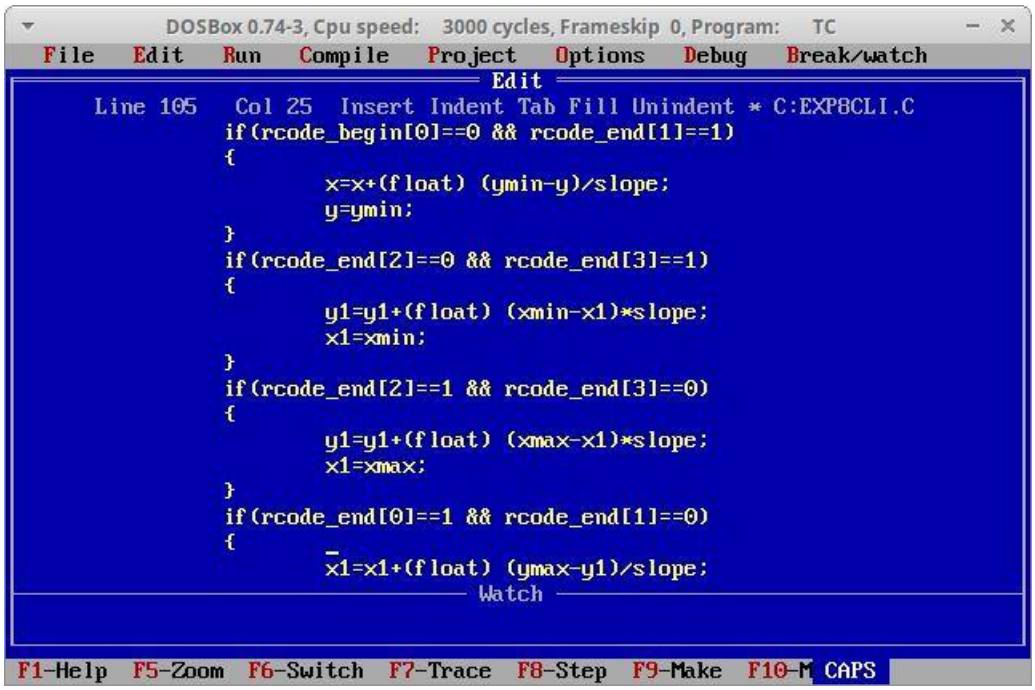


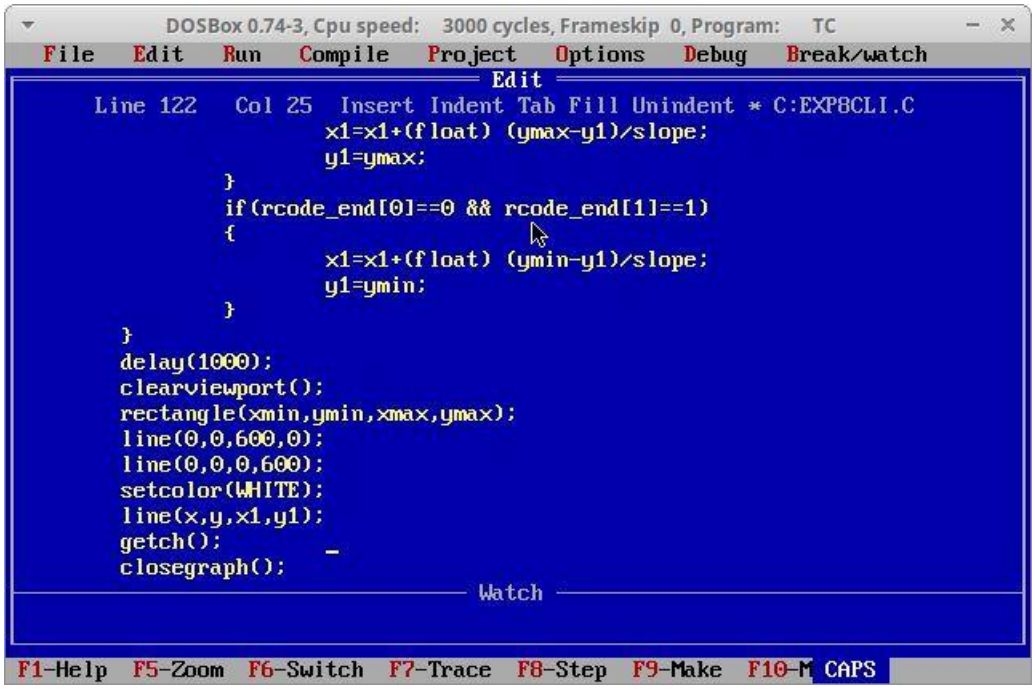


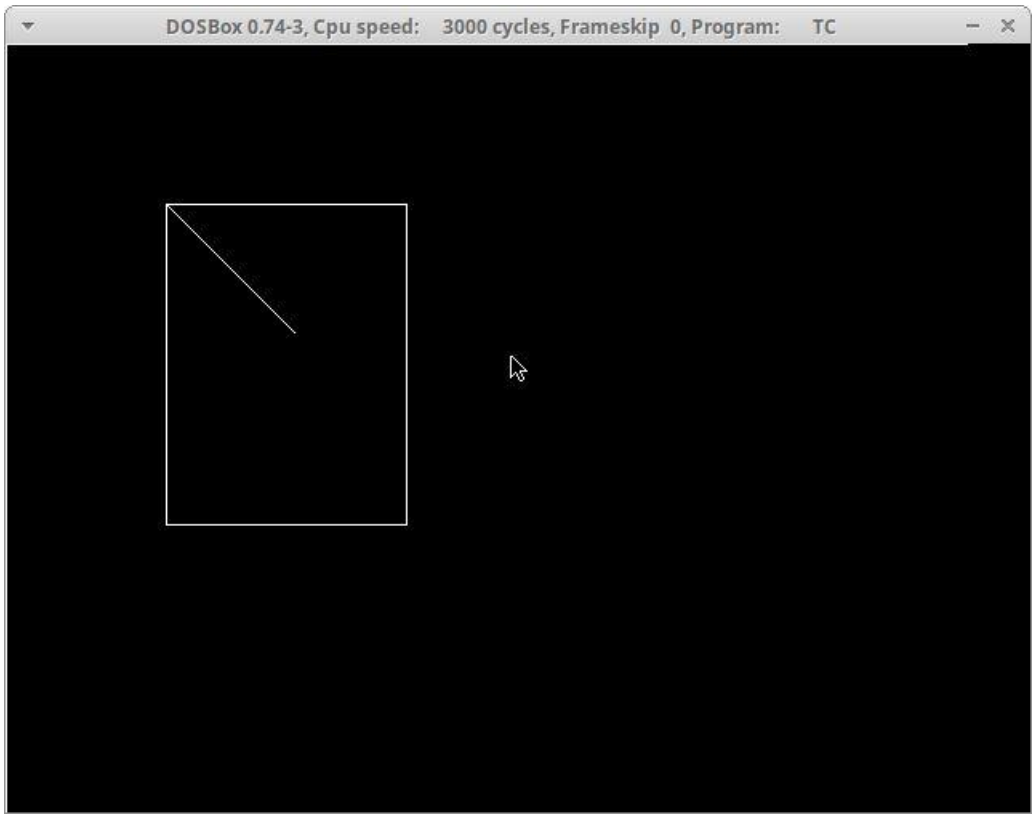

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: TC
File Edit Run Compile Project Options Debug Break/watch
Edit
Line 53 Col 25 Insert Indent Tab Fill Unindent * C:EXP8CLI.C
if(x>xmax)
{
rcode_begin[3]=1;
flag=1;
}
if(x<xmin)
{
rcode_begin[3]=1;
flag=1;
}
if(y1>ymax)
{
rcode_end[0]=1;
flag=1;
}
if(y1<ymin)
{
rcode_end[1]=1;
Watch
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make F10-M CAPS


DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: TC
File Edit Run Compile Project Options Debug Break/watch
Edit
Line 72 Col 25 Insert Indent Tab Fill Unindent * C:EXP8CLI.C
}
if(x1>xmax)
{
rcode_end[2]=1;
flag=1;
}
if(x1<xmin)
{
rcode_end[3]=1;
flag=1;
}
if(flag==0)
{
printf("\n Line is completely outside the window");
}
else
{
slope=(float)(y1-y)/(x1-x);
Watch
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make F10-M CAPS

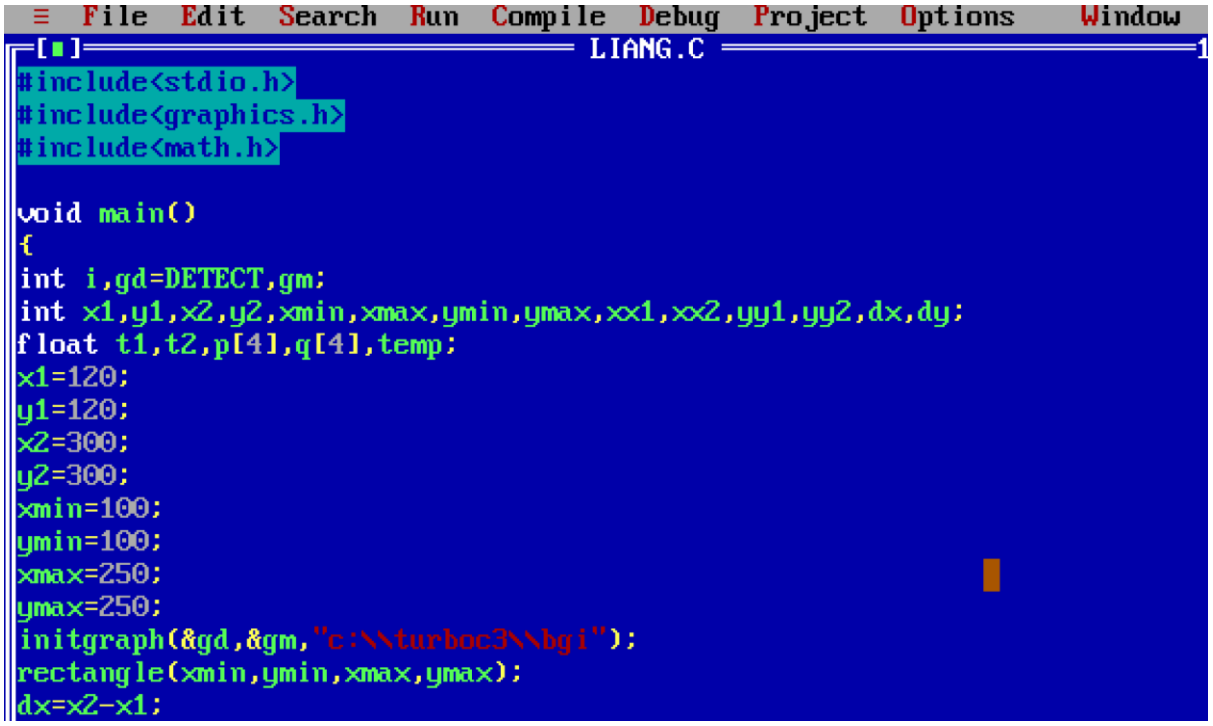

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: TC
File Edit Run Compile Project Options Debug Break/watch
Edit
Line 90 Col 25 Insert Indent Tab Fill Unindent * C:EXP8CLI.C
if(rcode_begin[2]==0 && rcode_begin[3]==1)
{
y=y+(float) (xmin-x)*slope;
x=xmin;
}
if(rcode_begin[2]==0 && rcode_begin[3]==0)
{
y=y+(float) (xmax-x)*slope;
xmax=x;
}
if(rcode_begin[0]==1 && rcode_begin[1]==0)
{
x=x+(float) (ymax-y)/slope;
y=ymax;
}
if(rcode_begin[0]==0 && rcode_end[1]==1)
{
x=x+(float) (ymin-y)/slope;
Watch
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make F10-M CAPS

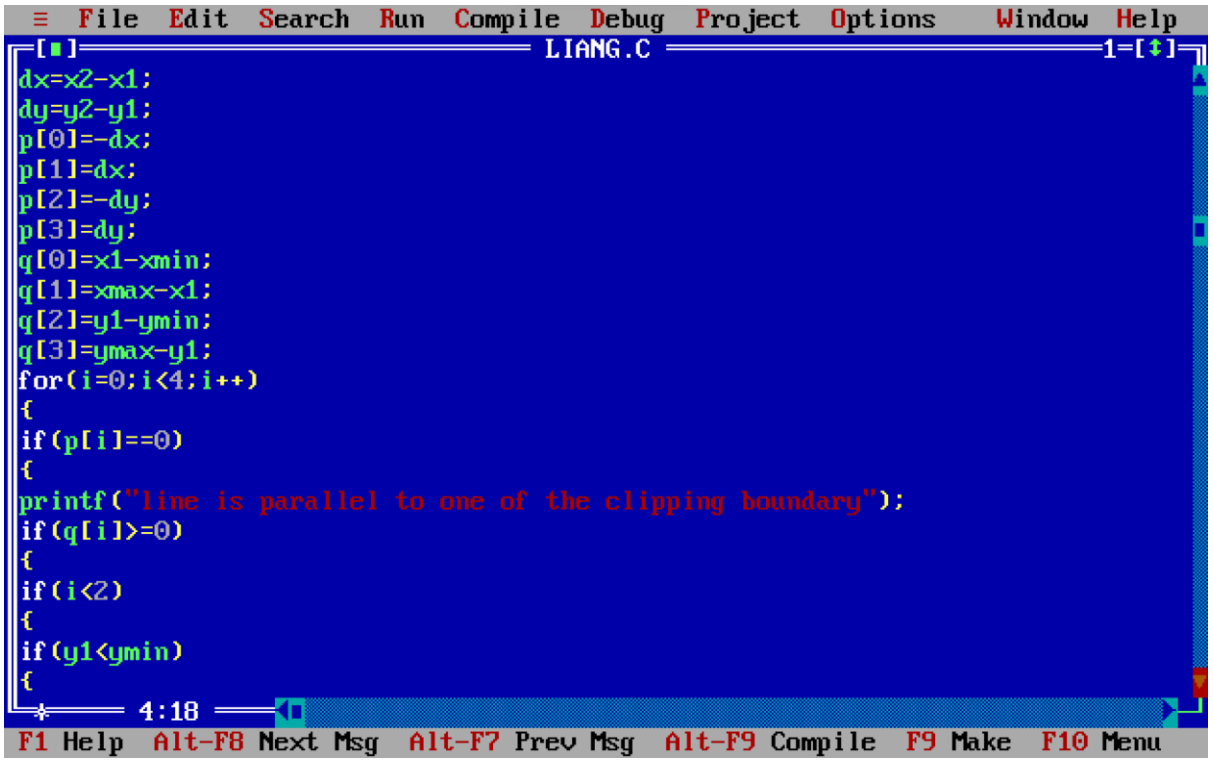

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: TC
File Edit Run Compile Project Options Debug Break/watch
Edit
Line 105 Col 25 Insert Indent Tab Fill Unindent * C:EXP8CLI.C
if(rcode_begin[0]==0 && rcode_end[1]==1)
{
x=x+(float) (ymin-y)/slope;
y=ymin;
}
if(rcode_end[2]==0 && rcode_end[3]==1)
{
y1=y1+(float) (xmin-x1)*slope;
x1=xmin;
}
if(rcode_end[2]==1 && rcode_end[3]==0)
{
y1=y1+(float) (xmax-x1)*slope;
x1=xmax;
}
if(rcode_end[0]==1 && rcode_end[1]==0)
{
x1=x1+(float) (ymax-y1)/slope;
Watch
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make F10-M CAPS


DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: TC
File Edit Run Compile Project Options Debug Break/watch
Edit
Line 122 Col 25 Insert Indent Tab Fill Unindent * C:EXP8CLI.C
x1=x1+(float) (ymax-y1)/slope;
y1=ymax;
}
if(rcode_end[0]==0 && rcode_end[1]==1)
{
x1=x1+(float) (ymin-y1)/slope;
y1=ymin;
}
}
delay(1000);
clearviewport();
rectangle(xmin,ymin,xmax,ymax);
line(0,0,600,0);
line(0,0,0,600);
setcolor(WHITE);
line(x,y,x1,y1);
getch();
closegraph();
Watch
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make F10-M CAPS


DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: TC

Liang-Barsky Line clipping





```
≡ File Edit Search Run Compile Debug Project Options Window Help
[■]═══ LIANG.C ═══1=[↕]
{
printf("line is parallel to one of the clipping boundary");
if(q[i]>=0)
{
if(i<2)
{
if(y1<ymin)
{
y1=ymin;
}
if(y2>ymax)
{
y2=ymax;
}
line(x1,y1,x2,y2);
}
if(i>1)
{
if(x1<xmin)
{
x1=xmin;
═══ 31:78 ═══
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
```

```
≡ File Edit Search Run Compile Debug Project Options Window Help
[■]═══ LIANG.C ═══1=[↕]
if(x1<xmin)
{
x1=xmin;
}
if(x2>xmax)
{
x2=xmax;
}
line(x1,y1,x2,y2);
}
}
}
}
t1=0;
t2=1;
for(i=0;i<4;i++)
{
temp=q[i]/p[i];
if(p[i]<0)
{
if(t1<=temp)
═══ 31:78 ═══
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
```

```
for(i=0;i<4;i++)
{
temp=q[i]/p[i];
if(p[i]<0)
{
if(t1<=temp)
t1=temp;
}
else
{
if(t2>temp)
t2=temp;
}
}
if(t1<t2)
{
xx1 = x1 + t1 * p[1];
xx2 = x1 + t2 * p[1];
yy1 = y1 + t1 * p[3];
yy2 = y1 + t2 * p[3];
line(xx1,yy1,xx2,yy2);
```

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≡ File Edit Search Run Compile Debug Project Options Window Help

[■] LIANG.C 1=[↕]

```
t2=temp;
}
}
if(t1<t2)
{
xx1 = x1 + t1 * p[1];
xx2 = x1 + t2 * p[1];
yy1 = y1 + t1 * p[3];
yy2 = y1 + t2 * p[3];
line(xx1,yy1,xx2,yy2);
}
delay(5000);
closegraph();
}
```

86:41

F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu