#include <stdio.h>

Expt No.: 07

Expt Name : Text Generation(Stoke’s Method)

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#include <conio.h>

#include <graphics.h>

#include <math.h>

#include <dos.h>

#define PI 3.1415

void InitGraph();

void CheckBound(int \*x, int orig\_x, int \*y, int height, int width);

void InitMatrix(Matrix \*m,int r,int c, int arr[]);

void DrawA(int \*x,int \*y,int height,int orig\_x);

void DrawB(int \*x,int \*y,int height,int orig\_x);

void DrawC(int \*x,int \*y,int height,int orig\_x);

void DrawD(int \*x,int \*y,int height,int orig\_x);

void DrawE(int \*x,int \*y,int height,int orig\_x);

void DrawF(int \*x,int \*y,int height,int orig\_x);

void DrawG(int \*x,int \*y,int height,int orig\_x);

void DrawH(int \*x,int \*y,int height,int orig\_x);

void DrawI(int \*x,int \*y,int height,int orig\_x);

void DrawJ(int \*x,int \*y,int height,int orig\_x);

void DrawK(int \*x,int \*y,int height,int orig\_x);

void DrawL(int \*x,int \*y,int height,int orig\_x);

void DrawM(int \*x,int \*y,int height,int orig\_x);

void DrawN(int \*x,int \*y,int height,int orig\_x);

void DrawO(int \*x,int \*y,int height,int orig\_x);

void DrawP(int \*x,int \*y,int height,int orig\_x);

void DrawQ(int \*x,int \*y,int height,int orig\_x);

void DrawR(int \*x,int \*y,int height,int orig\_x);

void DrawS(int \*x,int \*y,int height,int orig\_x);

void DrawT(int \*x,int \*y,int height,int orig\_x);

void DrawU(int \*x,int \*y,int height,int orig\_x);

void DrawV(int \*x,int \*y,int height,int orig\_x);

void DrawW(int \*x,int \*y,int height,int orig\_x);

void DrawX(int \*x,int \*y,int height,int orig\_x);

void DrawY(int \*x,int \*y,int height,int orig\_x);

void DrawZ(int \*x,int \*y,int height,int orig\_x);

main()

{

int x,y,height;

printf("Give x,y,height of rectangular region: ");

scanf("%d%d%d",&x,&y,&height);

const int orig\_x=x;

InitGraph();

DrawA(&x,&y,height,orig\_x);

DrawB(&x,&y,height,orig\_x);

DrawC(&x,&y,height,orig\_x);

DrawD(&x,&y,height,orig\_x);

DrawE(&x,&y,height,orig\_x);

DrawF(&x,&y,height,orig\_x);

DrawG(&x,&y,height,orig\_x);

DrawH(&x,&y,height,orig\_x);

DrawI(&x,&y,height,orig\_x);

DrawJ(&x,&y,height,orig\_x);

DrawK(&x,&y,height,orig\_x);

DrawL(&x,&y,height,orig\_x);

DrawM(&x,&y,height,orig\_x);

DrawN(&x,&y,height,orig\_x);

DrawO(&x,&y,height,orig\_x);

DrawP(&x,&y,height,orig\_x);

DrawQ(&x,&y,height,orig\_x);

DrawR(&x,&y,height,orig\_x);

DrawS(&x,&y,height,orig\_x);

DrawT(&x,&y,height,orig\_x);

DrawU(&x,&y,height,orig\_x);

DrawV(&x,&y,height,orig\_x);

DrawW(&x,&y,height,orig\_x);

DrawX(&x,&y,height,orig\_x);

DrawY(&x,&y,height,orig\_x);

DrawZ(&x,&y,height,orig\_x);

while(!kbhit())

delay(100);

}

void InitGraph()

{

int gd=DETECT,gm;

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

}

void DrawA(int \*x,int \*y,int height,int orig\_x)

{

float m = (float)3;

int width=2\*height/m;

CheckBound(x,orig\_x,y,height,width);

line(\*x+1,\*y+height,\*x+height/m,\*y);

line(\*x+height/m,\*y,\*x+2\*(height/m),\*y+height);

line(\*x+1+height/(2\*m),\*y+height/2,\*x+2\*(height/m)-height/(2\*m),\*y+height/2);

\*x+=width;

}

void DrawB(int \*x,int \*y,int height,int orig\_x)

{

int width=height/10+height/2+1;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+height/10,\*y+height);

ellipse(\*x+height/10,\*y+height/4,270,90,height/2,height/4);

ellipse(\*x+height/10,\*y+3\*height/4,270,90,height/2,height/4);

\*x+=width;

}

void DrawC(int \*x,int \*y,int height,int orig\_x)

{

int width=height;

CheckBound(x,orig\_x,y,height,width);

arc(\*x+height/2,\*y+height/2,45,305,height/2);

\*x+=width;

}

void DrawD(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+1,\*y,\*x+1,\*y+height);

ellipse(\*x+1,\*y+height/2,270,90,2\*height/3,height/2);

\*x+=width;

}

void DrawE(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3+height/10;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+height/10,\*y+height);

line(\*x+height/10,\*y,\*x+2\*height/3,\*y);

line(\*x+height/10,\*y+height,\*x+2\*height/3,\*y+height);

line(\*x+height/10,\*y+height/2,\*x+height/2,\*y+height/2);

\*x+=width;

}

void DrawF(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3+height/10;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+height/10,\*y+height);

line(\*x+height/10,\*y,\*x+2\*height/3,\*y);

line(\*x+height/10,\*y+height/2,\*x+height/2,\*y+height/2);

\*x+=width;

}

void DrawG(int \*x,int \*y,int height,int orig\_x)

{

int width=3\*height/4+height/10;

CheckBound(x,orig\_x,y,height,width);

ellipse(\*x+3\*height/8,\*y+height/2,45,359,3\*height/8,height/2);

line(\*x+3\*height/8,\*y+height/2,\*x+3\*height/4+height/10,\*y+height/2);

line(\*x+3\*height/4+height/10,\*y+height/2,\*x+3\*height/4+height/10,\*y+height);

\*x+=width;

}

void DrawH(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+height/10,\*y+height);

line(\*x+2\*height/3-height/10,\*y,\*x+2\*height/3-height/10,\*y+height);

line(\*x+height/10,\*y+height/2,\*x+2\*height/3-height/10,\*y+height/2);

\*x+=width;

}

void DrawI(int \*x,int \*y,int height,int orig\_x)

{

int width=height/2;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/4,\*y,\*x+height/4,\*y+height);

line(\*x+height/10,\*y,\*x+height/2-height/10,\*y);

line(\*x+height/10,\*y+height,\*x+height/2-height/10,\*y+height);

\*x+=width;

}

void DrawJ(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/3,\*y,\*x+2\*height/3,\*y);

line(\*x+height/2,\*y,\*x+height/2,\*y+2\*height/3);

ellipse(\*x+height/4,\*y+2\*height/3,180,360,height/4,height/3);

\*x+=width;

}

void DrawK(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+height/10,\*y+height);

line(\*x+height/10,\*y+height/2,\*x+2\*height/3-height/10,\*y);

line(\*x+height/10,\*y+height/2,\*x+2\*height/3-height/10,\*y+height);

\*x+=width;

}

void DrawL(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+height/10,\*y+height);

line(\*x+height/10,\*y+height,\*x+2\*height/3-height/10,\*y+height);

\*x+=width;

}

void DrawM(int \*x,int \*y,int height,int orig\_x)

{

int width=height;

CheckBound(x,orig\_x,y,height,width);

line(\*x+1,\*y+height,\*x+height/4,\*y);

line(\*x+height/4,\*y,\*x+height/2,\*y+height/2);

line(\*x+height/2,\*y+height/2,\*x+3\*height/4,\*y);

line(\*x+3\*height/4,\*y,\*x+height-1,\*y+height);

\*x+=width;

}

void DrawN(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+height/10,\*y+height);

line(\*x+2\*height/3-height/10,\*y,\*x+2\*height/3-height/10,\*y+height);

line(\*x+height/10,\*y,\*x+2\*height/3-height/10,\*y+height);

\*x+=width;

}

void DrawO(int \*x,int \*y,int height,int orig\_x)

{

int width=height;

CheckBound(x,orig\_x,y,height,width);

circle(\*x+height/2,\*y+height/2,height/2);

\*x+=width;

}

void DrawP(int \*x,int \*y,int height,int orig\_x)

{

int width=height/2;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+height/10,\*y+height);

ellipse(\*x+height/10,\*y+height/4,270,90,height/2-height/10,height/4);

\*x+=width;

}

void DrawQ(int \*x,int \*y,int height,int orig\_x)

{

int width=height;

CheckBound(x,orig\_x,y,height,width);

circle(\*x+height/2,\*y+height/2,height/2);

line(\*x+height/2,\*y+height/2,\*x+height,\*y+height);

\*x+=width;

}

void DrawR(int \*x,int \*y,int height,int orig\_x)

{

int width=height/2;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+height/10,\*y+height);

ellipse(\*x+height/10,\*y+height/4,270,90,height/2-height/10,height/4);

line(\*x+height/10,\*y+height/2,\*x+2\*height/3-height/10,\*y+height);

\*x+=width;

}

void DrawS(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

arc(\*x+height/3,\*y+height/4,60,270,height/4);

arc(\*x+height/3,\*y+3\*height/4,210,90,height/4);

\*x+=width;

}

void DrawT(int \*x,int \*y,int height,int orig\_x)

{

int width=height/2;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/4,\*y,\*x+height/4,\*y+height);

line(\*x+1,\*y,\*x+width-1,\*y);

\*x+=width;

}

void DrawU(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+height/10,\*y+2\*height/3);

line(\*x+width-height/10,\*y,\*x+width-height/10,\*y+2\*height/3);

ellipse(\*x+width/2,\*y+width,180,360,height/3-height/10,height/3);

\*x+=width;

}

void DrawV(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+width/2,\*y+height);

line(\*x+width/2,\*y+height,\*x+width-height/10,\*y);

\*x+=width;

}

void DrawW(int \*x,int \*y,int height,int orig\_x)

{

int width=height;

CheckBound(x,orig\_x,y,height,width);

line(\*x+1,\*y,\*x+height/4,\*y+height);

line(\*x+height/4,\*y+height,\*x+height/2,\*y+height/2);

line(\*x+height/2,\*y+height/2,\*x+3\*height/4,\*y+height);

line(\*x+3\*height/4,\*y+height,\*x+height-1,\*y);

\*x+=width;

}

void DrawX(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+width-height/10,\*y+height);

line(\*x+height/10,\*y+height,\*x+width-height/10,\*y);

\*x+=width;

}

void DrawY(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*height/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+width/2,\*y+height/2);

line(\*x+width/2,\*y+height/2,\*x+width-height/10,\*y);

line(\*x+width/2,\*y+height/2,\*x+width/2,\*y+height);

\*x+=width;

}

void DrawZ(int \*x,int \*y,int height,int orig\_x)

{

int width=2\*width/3;

CheckBound(x,orig\_x,y,height,width);

line(\*x+height/10,\*y,\*x+width-height/10,\*y);

line(\*x+height/10,\*y+height,\*x+width-height/10,\*y+height);

line(\*x+width-height/10,\*y,\*x+height/10,\*y+height);

\*x+=width;

}

void CheckBound(int \*x, int orig\_x, int \*y, int height, int width)

{

if(\*x+width>getmaxx())

{

\*x=orig\_x;

\*y+=height+height/5+2;

}

}

OUTPUT:-

