---------------------------------------------------------------------- Write C++/Java program to draw inscribed and Circumscribed circles in the triangle as shown as an example below. (Use any Circle drawing and Line drawing algorithms

----------------------------------------------------------------------#include "circtri.h"

#include "ui\_circtri.h"

#include<QtGui>

#include<math.h>

#include <QPainter>

circtri::circtri(QWidget \*parent) :

QMainWindow(parent),

ui(new Ui::circtri)

{

ui->setupUi(this);

}

circtri::~circtri()

{

delete ui;

}

void circtri :: plot(int x,int y,int x1,int y1)

{ QPainter painter(this);

painter.setPen(QPen((Qt::blue),1));

painter.drawPoint(x+x1,y+y1);

painter.drawPoint(x-x1,y+y1);

painter.drawPoint(x+x1,y-y1);

painter.drawPoint(x-x1,y-y1);

painter.drawPoint(x+y1,y+x1);

painter.drawPoint(x-y1,y+x1);

painter.drawPoint(x+y1,y-x1);

painter.drawPoint(x-y1,y-x1);

}

void circtri::changeEvent(QEvent \*e)

{

QMainWindow::changeEvent(e);

switch (e->type()) {

case QEvent::LanguageChange:

ui->retranslateUi(this);

break;

default:

break;

}

}

void circtri :: paintEvent(QPaintEvent \*event)

{

QPainter painter(this);

painter.setPen(QPen((Qt::red),5));

int x,y,r;

x=ui->textEdit->toPlainText().toInt();

y=ui->textEdit\_2->toPlainText().toInt();

r=ui->textEdit\_3->toPlainText().toInt();

drawCircle(x,y,r);

drawCircle(x,y,2\*r);

draw((float) x , y-2\*r , (float)(x-1.732\*r) , y+r );

draw((float)(x-1.732\*r) , y+r , (float)x+1.732\*r , y+r );

draw((float)x+1.732\*r , y+r, (float)x , y-2\*r );

}

void circtri::on\_pushButton\_clicked()

{

flag=0;

ui->label->setVisible(false);

ui->label\_2->setVisible(false);

ui->label\_3->setVisible(false);

ui->label\_4->setVisible(false);

ui->textEdit->setVisible(false);

ui->textEdit\_2->setVisible(false);

ui->textEdit\_3->setVisible(false);

ui->pushButton->setVisible(false);

update();

}

void circtri :: draw(float x1, float y1,float x2,float y2) //DDA

{

float x,y,xi,yi,dx,dy,len;

int i=0;

QPainter painter(this);

painter.setPen(QPen((Qt::red),1));

dx=x2-x1;

dy=y2-y1;

len = (abs(dx)>abs(dy)) ? abs(dx) : abs(dy);

xi=dx/len;

yi=dy/len;

x=x1+0.5;

y=y1+0.5;

while(i<len)

{

painter.drawPoint(x,y);

x=x+xi;

y=y+yi;

i++;

}

}

void circtri :: drawCircle(int x,int y,int r)

{

int i=0,d,x1=0,y1=r;

d=3-2\*r;

while(x1<=y1)

{

if(d>0)

{

d=d+4\*x1-4\*y1+10;

plot(x,y,x1++,y1--);

continue;

}

if(d<=0)

{

d=d+4\*x1+6;

plot(x,y,x1++,y1);

}

}

}

**OUTPUT:**

