**Assignment number:6**

**Subject: COMPUTER GRAPHICS LAB**

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Class: ***SECOND YEAR ENGINEERING***

Division: ***B***

Roll no: ***222008***

Batch: ***B1***

**PROBLEM STATEMENT:**

Write C++/Java program to draw inscribed and Circumscribed circles in the triangle as shown in syllabus page number 54. (Use any Circle drawing and Line drawing algorithms)

**Code:**

package bcircle;

import java.awt.\*;

import javax.swing.\*;

public class Bcircle extends JFrame {

public void Drawline1(Graphics g,double x1,double y1,double x2,double y2){

double dx,dy,length;

double x,y;

dx=Math.abs(x2-x1);

dy=Math.abs(y2-y1);

if(dx>=dy)

length=dx;

else

length=dy;

dx=(x2-x1)/length;

dy=(y2-y1)/length;

x=x1+0.5\*Math.signum(dx);

y=y1+0.5\*Math.signum(dy);

int i=1;

while(i<=length)

{

g.fillOval((int)x,(int)y,1,1);

x=x+dx;

y=y+dy;

i=i+1;

}

public void bresen(Graphics g,int xc,int yc,int r)

{

// int xc,yc,r;

int x=0;

int y=r;

int p=3-2\*r;

do

{

if(p<0)

p=p+4\*x+6;

else

{

p=p+4\*(x-y)+10;

y=y-1;

}

x=x+1;

g.drawLine(xc+x, yc+y,xc+x,yc+y);

g.drawLine(x+xc,yc-y,xc+x,yc-y);

g.drawLine(xc-x,yc+y,xc-x,yc+y);

g.drawLine(xc-x,yc-y,xc-x,yc-y);

g.drawLine(xc+y,yc+x,xc+y,yc+x);

g.drawLine(xc+y,yc-x,xc+y,yc-x);

g.drawLine(xc-y, yc+x,xc-y,yc+x);

g.drawLine(xc-y, yc-x,xc-y,yc-x);

}while(x<y);

}

public void paint(Graphics g)

{

bresen(g,450,450,60);

bresen(g,450,450,110);

Drawline1(g,560,510,340,510);

Drawline1(g,450,340,340,510);

Drawline1(g,450,340,560,510);

}

public static void main(String[] args) {

// TODO code application logic here

Bcircle a = new Bcircle();

a.setSize(1024,768);

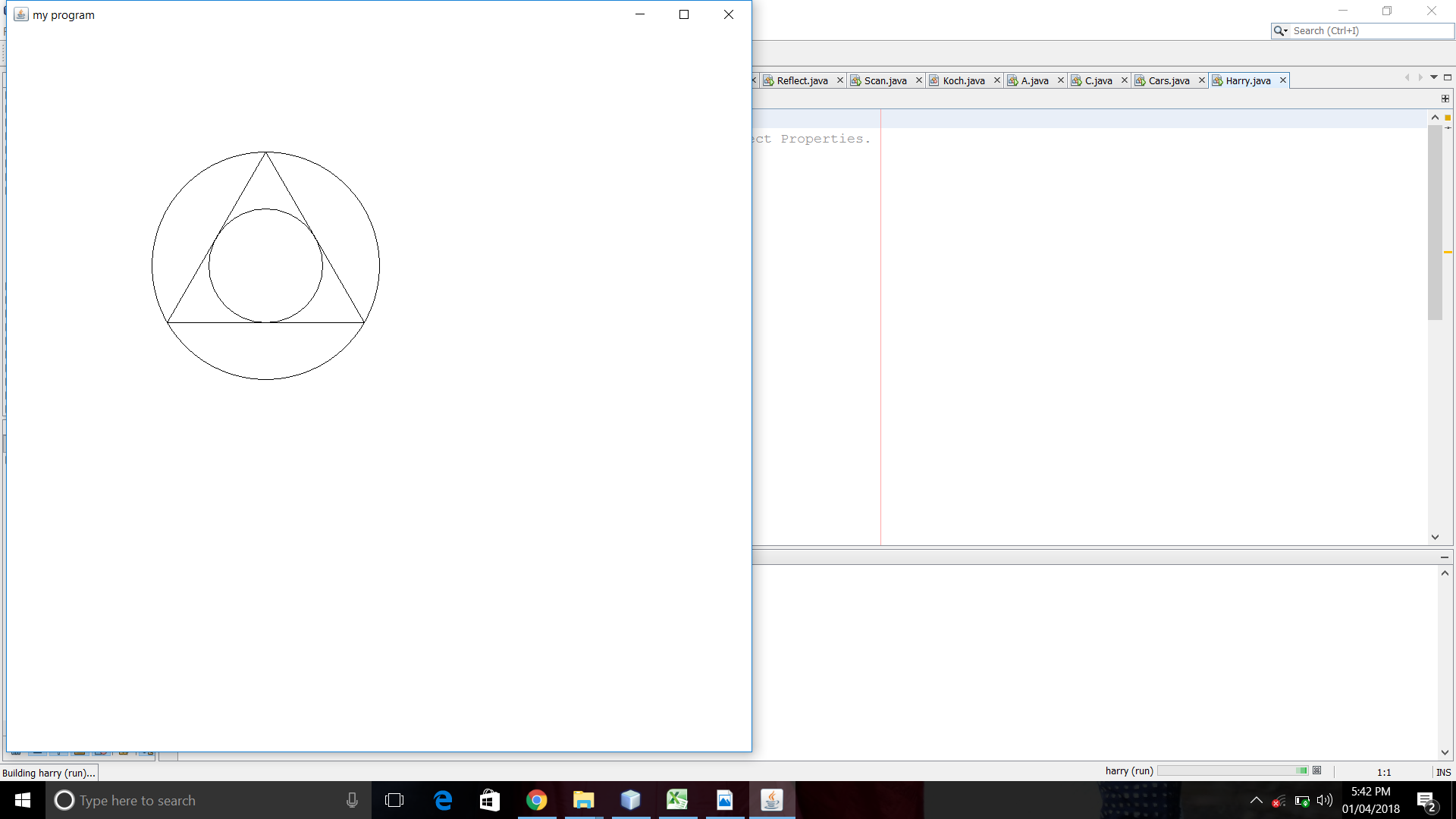
a.setVisible(true);

a.setDefaultCloseOperation(EXIT\_ON\_CLOSE);

}

}

**Output:**

****