CSE2006 LAB 8

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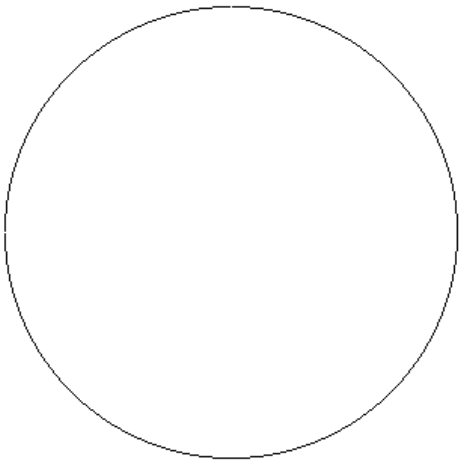
Code:

1. Midpoint circle drawing algorithm:

```
void setup()
{
size(800,800);
background(255);
}
Mld mld=new Mld();
void draw()
{
mld.mldg();
}
public class Mld
{
Mld(){};
void mldg()
{
int x_centre=400;int y_centre=400;
int r=150;
int x = r, y = 0;
point((x + x_centre),(y + y_centre));
if (r > 0) {
point((x + x_centre) ,(-y + y_centre));
point((y + x_centre),(x + y_centre));
point((-y + x_centre),(x + y_centre));
}
int P = 1 - r;
while (x > y) {
y++;
if (P <= 0)
P = P + 2 * y + 1;
else {
x--;
P = P + 2 * y - 2 * x + 1;
}
if (x < y)
break;
point((x + x_centre),(y + y_centre));
point((-x + x_centre),(y + y_centre));
point((x + x_centre),(-y + y_centre));
point((-x + x_centre),(-y + y_centre));
```

```
if (x != y) {
point((y + x_centre),(x + y_centre));
point((-y + x_centre),(x + y_centre));
point((y + x_centre),(-x + y_centre));
point((-y + x_centre),(-x + y_centre));
}
}
}
}
```

OUTPUT:



2. .Bresenham's circle drawing algorithm:

```
void setup()
{
size(400,400);
background(255);
}
Mld mld=new Mld();
```

```
void draw()
{
mld.mldg();
}
public class Mld
{
Mld(){};
void mldg()
{
int xc=200;int yc=200;
int r=50;
int x=0,y=r,d=3-(2*r);
point(x+xc,y+yc);
point(x+xc,-y+yc);
point(-x+xc,-y+yc);
point(-x+xc,y+yc);
point(y+xc,x+yc);
point(y+xc,-x+yc);
point(-y+xc,-x+yc);
point(-y+xc,x+yc);
while(x<=y)
{
if(d<=0)
{
d=d+(4*x)+6;
}
else
{
d=d+(4*x)-(4*y)+10;
y=y-1;
}
x=x+1;
point(x+xc,y+yc);
point(x+xc,-y+yc);
point(-x+xc,-y+yc);
point(-x+xc,y+yc);
point(y+xc,x+yc);
point(y+xc,-x+yc);
point(-y+xc,-x+yc);
point(-y+xc,x+yc);
} }}
```

OUTPUT: