School: SCOPE Semester: WIN SEM 2022-23

Subject: Computer Graphics (Lab) Subject Code: CSE2006

Assignment 4

NAME: S.B. ASHRITH

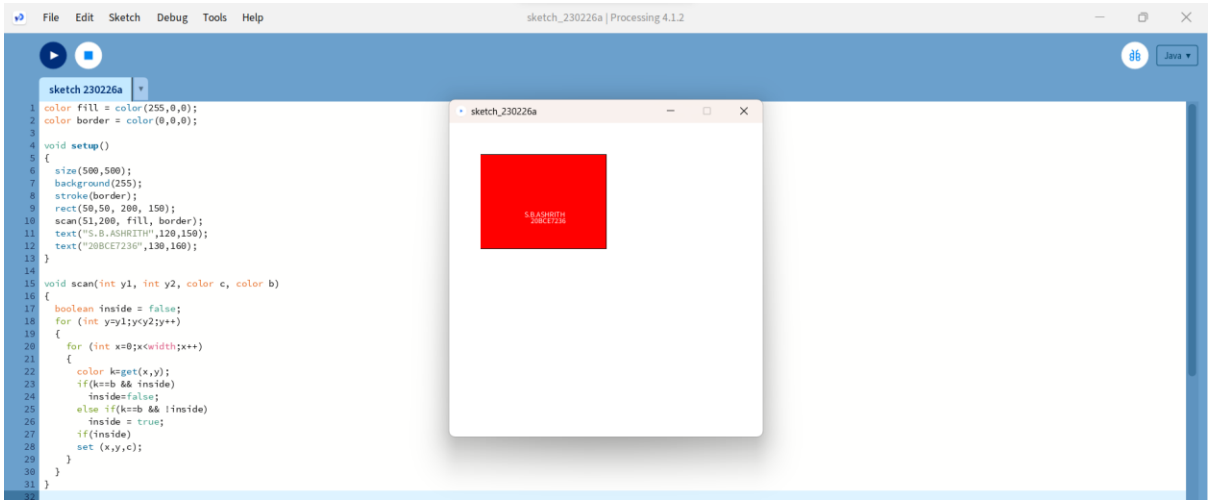
Registration No: 20BCE7236

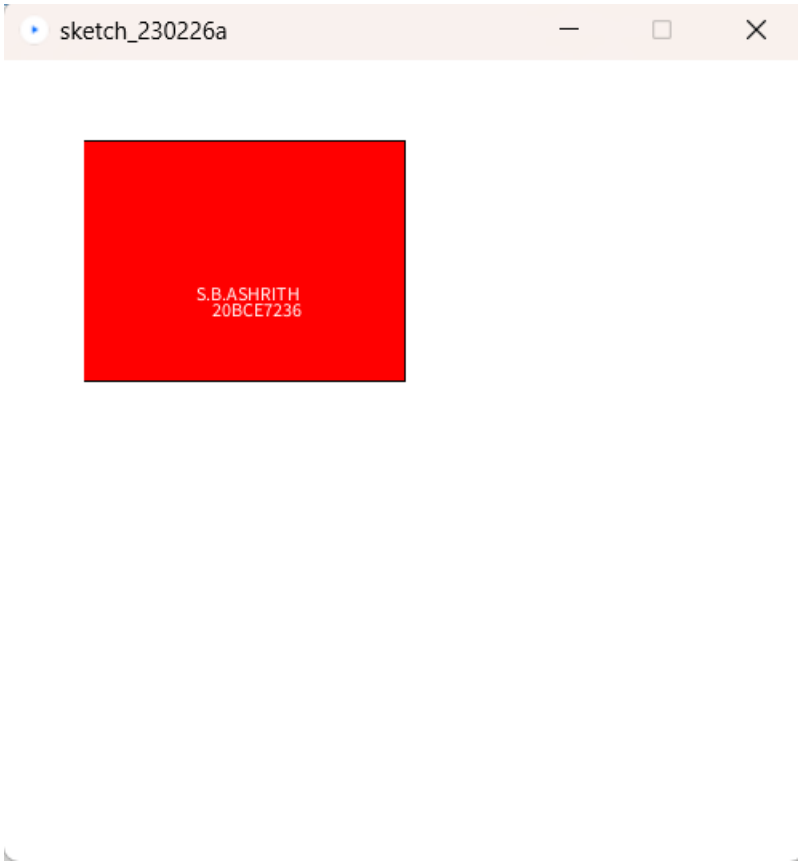
**** Display Your Name & Reg. No. in Output**

1. Fill a rectangle (width= 200, height= 150) with red colour using Scan Line Polygon Filling Algorithms.

```
color fill = color(255,0,0);

color border = color(0,0,0);


void setup()

{

 size(500,500);

 background(255);

 stroke(border);

 rect(50,50, 200, 150);

 scan(51,200, fill, border);

 text("S.B.ASHRITH",120,150);

 text("20BCE7236",130,160);

}


void scan(int y1, int y2, color c, color b)
```

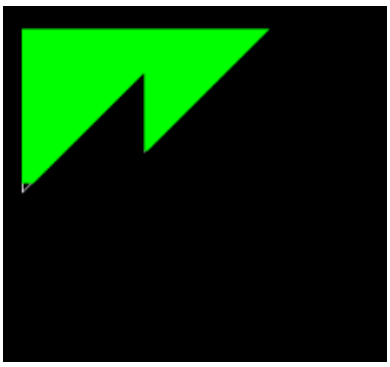
```
{
 boolean inside = false;
 for (int y=y1;y<y2;y++)
 {
  for (int x=0;x<width;x++)
  {
   color k=get(x,y);
   if(k==b && inside)
    inside=false;
   else if(k==b && !inside)
    inside = true;
   if(inside)
   set (x,y,c);
  }
 }
}
```





2. Consider a polygon of 5 vertices with coordinates [30, 30] , [30 150] , [120, 60] , [120, 120] and [210, 30]. Fill the polygon with green colour using Scan Line Polygon Filling Algorithms.

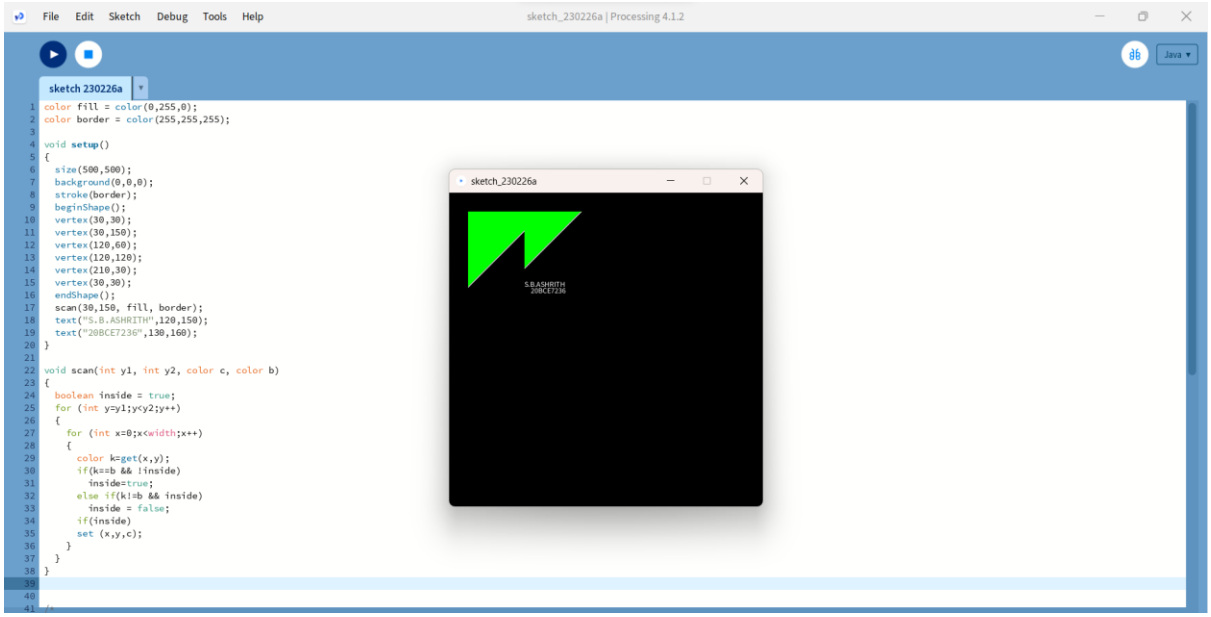
Expected Output:



```
color fill = color(0,255,0);
color border = color(255,255,255);


void setup()
```

```
{
  size(500,500);
  background(0,0,0);
  stroke(border);
  beginShape();
  vertex(30,30);
  vertex(30,150);
  vertex(120,60);
  vertex(120,120);
  vertex(210,30);
  vertex(30,30);
  endShape();
  scan(30,150, fill, border);
  text("S.B.ASHRITH",120,150);
  text("20BCE7236",130,160);
}

void scan(int y1, int y2, color c, color b)
{
  boolean inside = true;
  for (int y=y1;y<y2;y++)
  {
    for (int x=0;x<width;x++)
    {
      color k=get(x,y);
      if(k==b && !inside)
        inside=true;
      else if(k!=b && inside)
        inside = false;
      if(inside)
      set (x,y,c);
```

```
    }
  }
}
```


File Edit Sketch Debug Tools Help
sketch_230226a | Processing 4.1.2
Java
sketch 230226a
color fill = color(0,255,0);
color border = color(255,255,255);
void setup()
{
size(500,500);
background(0,0,0);
stroke(border);
beginShape();
vertex(30,30);
vertex(30,150);
vertex(120,60);
vertex(120,120);
vertex(210,30);
vertex(30,30);
endShape();
scan(30,150, fill, border);
text("S.B.ASHRITH",120,150);
text("20BCE7236",130,160);
}
void scan(int y1, int y2, color c, color b)
{
boolean inside = true;
for (int y=y1;y<y2;y++)
{
for (int x=0;x<width;x++)
{
color k=get(x,y);
if(k==b && !inside)
inside=true;
else if(k!=b && inside)
inside = false;
if(inside)
set (x,y,c);
}
}
}
sketch_230226a
S.B.ASHRITH
20BCE7236


sketch_230226a
S.B.ASHRITH
20BCE7236