



আন্তর্জাতিক ইসলামী বিশ্ববিদ্যালয় চট্টগ্রাম
الجامعة الإسلامية العالمية شيتاغونغ
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Course Title : Computer Graphics Lab

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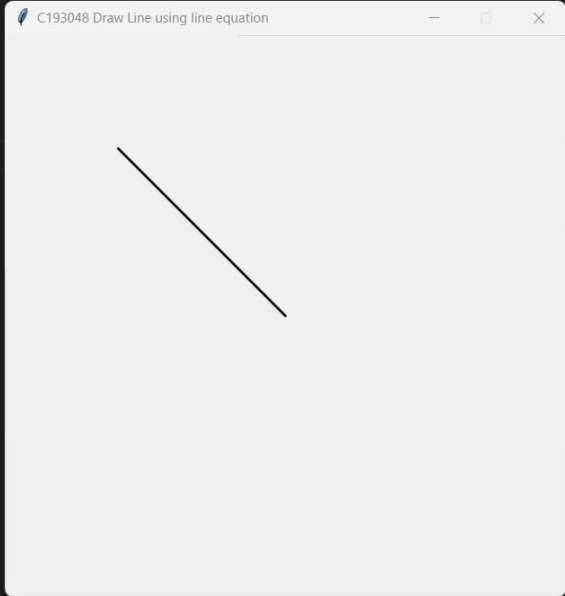
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1. Draw Line using line equation :

```
Sriti_Shoudho.py  line_equation.py  DDA_algorithm.py  Bresenham_line_algorithm.py


LAB_WORK > line_equation.py > main
1  from graphics import *
2  def main():
3      win = GraphWin("C193048 Draw Line using line equation", 500, 500)
4      x1=100
5      y1=100
6      x2=250
7      y2=250
8      m = (y2-y1)/(x2-x1)
9      c=y1-(m*x1)
10     x = x1
11     while x < x2 :
12         y=(m*x)+c;
13         aPoint = Point(x, y)
14         aPoint.draw(win)
15         x += 1
16
17     win.getMouse()
18     win.close()
19 main()
20
```



2. Draw line using DDA algorithm :

```
Sriti_Shoudho.py  line_equation.py  DDA_algorithm.py  Bresenham_line_algorithm.py

LAB_WORK > DDA_algorithm.py > main
1  from graphics import *
2  def main():
3      win = GraphWin("C193048 Draw line using DDA algorithm", 500, 500)
4      x1=100
5      y1=100
6      x2=200
7      y2=200
8      dx=abs(x2-x1)
9      dy=abs(y2-y1)
10
11     if dx > dy :
12         step = dx
13     else:
14         step = dy
15     x_inc = dx / step
16     y_inc = dy / step
17     x=x1
18     y=y1
19     i = 0
20     while i <= step :
21         aPoint = Point(x, y)
22         aPoint.draw(win)
23         x += x_inc
24         y += y_inc
25         i += 1
26
27     win.getMouse()
28     win.close()
29 main()
```



3. Draw Line using Bresenham's line algorithm :

```
Sriti_Shoudho.py • line_equation.py DDA_algorithm.py Bresenham_line_algorithm.py X
LAB_WORK > Bresenham_line_algorithm.py > main
1  from graphics import *
2  def main():
3      win = GraphWin("C193048 Draw Line using Bresenham's line algorithm", 500, 500)
4      x1=100
5      y1=100
6      x2=300
7      y2=300
8      dx = x2-x1
9      dy = y2-y1
10     i1 = 2*dy
11     i2 = 2*(dy-dx)
12     d = i1 - dx
13     x = x1
14     y = y1
15     aPoint = Point(x, y)
16     aPoint.draw(win)
17     while x < x2 :
18         x += 1
19         if d < 0 :
20             d += i1
21         else:
22             y += 1
23             d += i2
24         bPoint = Point(x, y)
25         bPoint.draw(win)
26
27     win.getMouse()
28     win.close()
29 main()
```

