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COURSE:- BCA 'A'

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Paper Name:- Computer Graphics

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Answer 1:-

Step 1 \rightarrow Start /

Step 2 \rightarrow Declare $x_1, y_1, x_2, y_2, dx, dy, x, y$ as integer variables.

Step 3 \rightarrow Enter value of x_1, y_1, x_2, y_2 .

Step 4 \rightarrow Calculate $dx = x_2 - x_1$

Step 5 \rightarrow Calculate $dy = y_2 - y_1$

Step 6 \rightarrow If $ABS(dx) > ABS(dy)$
Then $step = abs(dx)$

Else

Step 7 $\rightarrow x_{inc} = dx / step$

$y_{inc} = dy / step$

assign $x = x_1$

assign $y = y_1$

Step 8 \rightarrow ~~loop~~ set pixel (x, y)

Step 9 $\rightarrow x = x + x_{inc}$

$y = y + y_{inc}$

Set pixels (Round(x), Round(y))

Step 10 \rightarrow Repeat step 9 until $x = x_2$

Step 11 \rightarrow End of step.

Program \Rightarrow

```
#include <stdio.h>
```

```
void main()
```

```
{  
    float x, y, x1, y1, x2, y2, dx, dy, steps;
```

```
    int i, gd = DETECT, gm;
```

```
    printf("Enter (x1, y1):");
```

```
    scanf("%f %f", &x1, &y1);
```

```
    printf("Enter (x2, y2):");
```

```
    scanf("%f %f", &x2, &y2);
```

```
    intigrph (b_gd, b_gm, " ");
```

```
    dx = abs(x2 - x1);
```

```
    dy = abs(y2 - y1);
```

```
    if (dx >= dy
```

```
        steps = dx;
```

```
    else
```


steps = dy;

dx = dx / steps;

dy = dy / steps;

x = x1;

y = y1;

i = 1;

while (i <= steps)

{

putpixel(x, y, 5);

x = x + dx;

y = y + dy;

i = i + 1;

delay(50);

}

delay(5000);

closegraph();

}

