

Q P1 \Rightarrow Program:

```
#include <graphics.h>
```

```
void main()
```

```
{
```

```
float x1, y1, x2, y2, dx, dy, steps;
```

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

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

```
scanf("d.f d.f", &x1, &y1);
```

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

```
scanf("d.f d.f", &x2, &y2);
```

```
initgraph(&gd, &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;
```

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```

while (i <= steps)
{
    putpixel (x, y, 5);
    x = x + dx;
    y = y + dy;
    i = i + 1;
    delay(50);
}
delay(5000);
closegraph();
}

```

Step 1: Start Algorithm

Step 2: Declare $x_1, y_1, x_2, y_2, dx, dy, x, y$ as a float variables.

Step 3: Enter the value of x_1, y_1, x_2, y_2

Step 4: Calculate $dx = (x_2 - x_1)$

Step 5: Calculate $dy = (y_2 - y_1)$

Step 6: if $ABS(dx) > ABS(dy)$
 then $step = abs(dx)$
 else
 $step = abs(dy)$

Step 7: $dx = dx / step$
 $dy = dy / step$
 assign $x = x_1$
 $y = y_1$

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Step 8: Set pixel (x, y)

Step 9: $x = x + dx$

$y = y + dy$

increment i by 1

Step 10: Repeat step 9 until $x = x_2$

Step 11: End algorithm.

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Output

```
Enter the value of x1 and y1 : 100  
100  
Enter the value of x2 and y2: 150  
150
```

