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Computer Graphics

Ans:

```
#include<stdio.h>
#include<graphics.h>
#include<dos.h>
#include<conio.h>
void floodfill(int x, int y, int old, int new col)
{
    int current;
    current = getpixel(x,y);
    if(current == old)
    {
        delay(5);
        putpixel(x, y, new col);
        floodfill(x+1, old, new col);
        floodfill(x-1, y, old, new col);
        floodfill(x, y+1, old, new col);
        floodfill(x, y-1, old, new col);
        floodfill(x+1, y+1, old, new col);
        floodfill(x-1, y+1, old, new col);
        floodfill(x+1, y-1, old, new col);
        floodfill(x-1, y-1, old, new col);
    }
}
```

```
void main()
{
  int gd = DETECT, gm;
  initgraph (&gd, &gm);
  rectangle (50, 50, 150, 150);
  floodfill (70, 70, 0, 15);
  getch();
  closegraph();
}
```

Algorithm

Step 1 - Initialize the value of seed point (seedx, seedy), fcolor and dcol.

Step 2 - Define the boundary values of the polygon.

Step 3 - Check if the current seed point is of default color then repeat the steps 4 and 5 till the boundary pixels reached.

if getpixel (x, y) = dcol then repeat step 4 and 5.

Step 4 - Chose the default color with the fill color at the seed point.

```
Set Pixel (seedx, seedy, fcol)
```

Step 5 - Recursively follow the procedure with four neighbourhood pi

```
Floodfill (seedx - 1, seedy, fcol, dcol)
Floodfill (seedx + 1, seedy, fcol, dcol)
Floodfill (seedx, seedy - 1, fcol, dcol)
Floodfill (seedx, seedy + 1, fcol, dcol)
Floodfill (seedx - 1, seedy + 1, fcol, dcol)
Floodfill (seed + 1, seedy + 1, fcol, dcol)
Floodfill (seedx + 1, seedy - 1, fcol, dcol)
Floodfill (seedx - 1, seedy - 1, fcol, dcol)
```

Step 6 - Exit