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Q1

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

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

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Ans 1 8 connected flood fill algorithm

Step 1 - Initalize 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 - Change the default color with the fill color at the seed point.

SetPixel (seedx, seedy, fcol)

Step 5 - Recursively follow the procedure with four neighbourhood point

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 (seedx + 1, seedy + 1, fcol, dcol)
floodfill (seedx + 1, seedy - 1, fcol, dcol)
floodfill (seedx - 1, seedy - 1, fcol, dcol)

Step 6 - Exit

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