CG Experiment 12.

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* Aim: Write a program to perform animation ~~sun~~ such as rising sun, moving vehicle, smileys, screen saver.

* Theory:

- Animations

It refers to the movement on the screen of the display device created by displaying a sequence of still images. animation is a technique of ~~destroying~~ designing, drawing, making layouts & preparation of photographic series which are integrated into the multimedia and gaming products.

- Various functions used for animation

1) Initgraph - It initializes the graphics system by loading the ~~pase~~ passed graphic driver then changing the system into graphics mode.

2) Setcolor - It changes the current drawing color. We are using color constants defined inside graphics.h header file.

3) setfillstyle - It sets the current fill pattern and fill color.

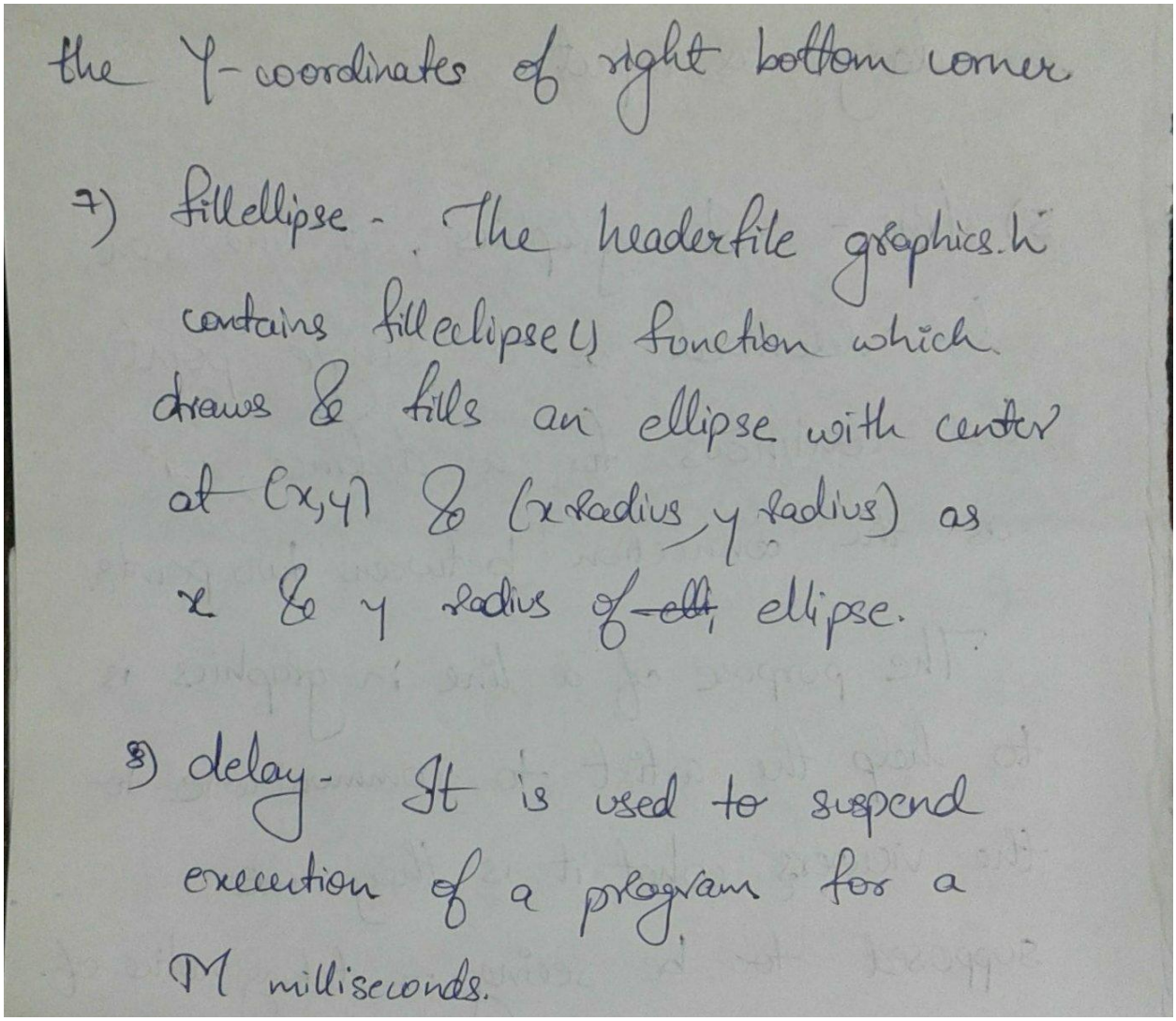
4) floodfill - It is used to fill a closed area with current fill pattern and fill color. It takes any point inside closed area and color of the

boundary as input.

5) Line - In graphics, a line can be described as a single point that continous for a distance, or as the connection between two points.

The purpose of a line in graphics is to help the artist to communicate to the viewers what it is they are supposed to be seeing or taking notice of.

6) Rectangle - Rectangle function is used to draw a rectangle. Co-ordinates of left top & right bottom corner are required to draw the rectangle. Left specifies the x-coordinate of the top left corner, right specifies the x coordinate of right bottom corner, bottom specifies


the Y-coordinates of right bottom corner

7) fillellipse - The headerfile graphics.h contains fillellipse() function which draws & fills an ellipse with center at (x,y) & (x radius, y radius) as x & y radius of ellipse.

8) delay - It is used to suspend execution of a program for a M milliseconds.

CODE:

```
#include<graphics.h>
#include<conio.h>
#include<stdio.h>
#include<math.h>
#include<dos.h>

void main() {
  int gd = DETECT, gm;
  int i, j, k, t, q;
  float x, y;
  initgraph( & gd, & gm, "C:\\TURBOC3\\BGI");
  setcolor(3);
  rectangle(0, 0, getmaxx(), getmaxy());
  setcolor(2);
```

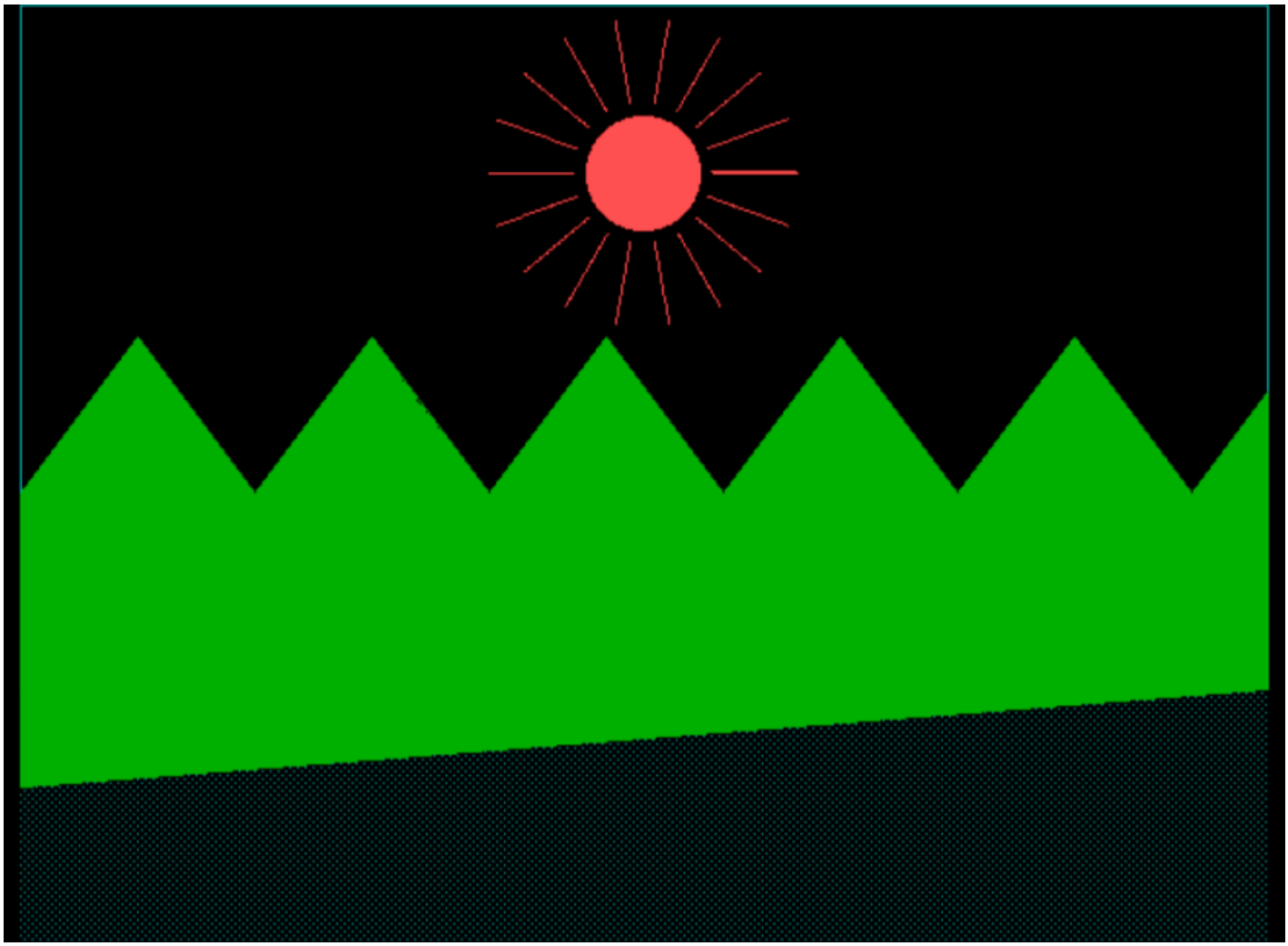
```
 i = 0;
 for (t = 0; t < getmaxx(); t += 120) {
   line(t, 250, t + 60, 170);
   line(t + 60, 170, t + 120, 250);
 }
 line(0, 400, getmaxx(), 350);
 setfillstyle(11, CYAN);
 floodfill(2, 420, 2);
 setfillstyle(4, LIGHTGREEN);
 floodfill(1, 300, 2);

 i = 0;
 while (i != 150) {

   setcolor(BLACK);
   setfillstyle(SOLID_FILL, BLACK);
   fillellipse(k, j, 30, 30);
   setfillstyle(SOLID_FILL, LIGHTRED);
   fillellipse(170 + i, 235 - i, 30, 30);
   j = 235 - i;
   k = 170 + i;
   i++;
   setcolor(2);
   for (t = 0; t < getmaxx(); t += 120) {
     line(t, 250, t + 60, 170);
     line(t + 60, 170, t + 120, 250);
   }
   setfillstyle(1, GREEN);
   floodfill(202, 200, GREEN);
   delay(25);
 }

 for (i = 36; i < 80; i++)
   for (j = 0; j <= 360; j += 20) {
     x = 319 + i * cos(((float) j * 3.14) / 180);
     y = 86 + i * sin(((float) j * 3.14) / 180);
     putpixel(x, y, LIGHTRED);
     delay(1);
   }
 getch();
}
```

OUTPUT:



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* Conclusion.

Hence, We have implemented the program to get rising sun on the screen using animation and also studied about the various functions used in the program.