

**U18CO018**  
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**Assignment-2**  
**Computer Graphics**

1-> Explore different functions of graphics.h library.

2-> Write a program for the simulation of following functions:  
initGraphics, arc, bar, circle, line, rectangle, ellipse, outtext,  
outtextxy, cleardevice, closegraph, drawpoly, ellipse, fillpoly, fillArc,  
fillRect, setFont, getFont, getarccoords, getbkcolor, getColor,  
setColor, pause, waitForClick, settextstyle, setlinestyle, setfillstyle,  
pieslice.

3-> Write a program to design a car using pre-defined functions of graphics.h.

4-> Write a program to design a smiley face using graphics.h functions.

5-> Write a program to create circles inside various circles using graphics.h functions.

6-> Write a program to design traffic signal using graphics.h functions.

- initgraph :- initialize graph
- outtext :- to print
- outtextxy :- to print at any point
- settextstyle :- set style of the text
- rectangle :- draw rectangle
- line :- draw line
- arc :- draw arc
- bar :- draw bar
- circle :- draw circle
- ellipse :- draw ellipse
- cleardevice() :- clear the device
- drawpoly() :- draw poly

- `fillellipse()` :- fill ellipse
- `fillpoly()` :- fill poly
- `pieslice()` :- fill arc
- `setlinestyle()` :- to determine line style
- `getbkcolor()` :- get background colour
- `setbkcolor()` :- set background colour
- `setfillstyle()`: set fill style for the filling of the shape
- `floodfill()` :- fill the shape
- `getcolor()` :- get font colour
- `setcolor()` :- set font colour
- `getmaxx()` :- get maximum x coordinates
- `getmaxy()` :- get maximum y coordinates

## Code

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

int main() {
int gd = DETECT, gm;
initgraph(&gd,&gm,"");

char arrr[100];
sprintf(arrr, "Current background color = %d and line color = %d",getbkcolor(),getcolor());
settextstyle(5,0,1);
outtext(arrr);

//blank
rectangle(50,20,150,45);
line(50,60,150,60); //line
setcolor(GREEN);
circle(250,100,50); // cicle
setcolor(WHITE);
outtextxy(225,95,"Circle");
setlinestyle(2,0,1);
arc(375,100,0,135,50); //arc
setlinestyle(0,0,1);
arc(375,100,200,340,50);
bar(450, 40, 480, 150); //bar
```

```
ellipse(550,100,0,360,50,80);
outtextxy(525,90,"ellipse");
int ar[] = {50,70,150,100,50,130,90,100,50,70};
drawpoly(5,ar);
int p = getbkcolor();
//fill
int arr[] = {50,170,150,200,50,230,90,200,50,170};
fillpoly(5,arr);
pieslice(375,220,20,80,50);
setfillstyle(SOLID_FILL,5);
circle(250,200,40);
floodfill(250,200,WHITE);
```

```
getch();
cleardevice();
setbkcolor(GREEN);
outtext("Press any key for car");
getch();
setbkcolor(0);
cleardevice();
```

```
line(50,270,90,270);
arc(110,270,0,180,20);
line(130,270,220,270);
arc(240,270,0,180,20);
line(260,270,300,270);
arc(300,260,270,90,10);
line(300,250,240,230);
line(240,230,200,200);
line(200,200,110,200);
line(110,200,80,230);
line(80,230,50,240);
line(50,240,50,270);
```

```
line(165,205,165,230);
line(165,230,230,230);
line(230,230,195,205);
line(195,205,165,205);
```

```
line(160,205,160,230);
line(160,230,95,230);
line(95,230,120,205);
line(120,205,160,205);
```

```
circle(110,270,17);  
circle(240,270,17);  
line(0,290,639,290);  
getch();
```

```
cleardevice();  
outtext("Press any key for Smiley Face");  
getch();  
cleardevice();
```

```
setcolor(YELLOW);  
    circle(300, 200, 80);  
    setfillstyle(SOLID_FILL, YELLOW);  
    floodfill(300, 200, YELLOW);
```

```
setcolor(BLACK);  
setfillstyle(SOLID_FILL, BLACK);
```

```
fillellipse(325, 175, 6, 15);  
fillellipse(275, 175, 6, 15);
```

```
ellipse(300, 210, 205, 335, 60, 29);  
ellipse(300, 210, 205, 335, 60, 30);  
ellipse(300, 210, 205, 335, 60, 31);  
getch();
```

```
setcolor(15);  
cleardevice();
```

```
outtext("Press any key for circles");  
getch();  
cleardevice();
```

```
setcolor(BLUE);  
circle(250,200,100);
```

```
setcolor(CYAN);  
circle(250,200,80);
```

```
setcolor(YELLOW);  
circle(250,200,60);
```

```

setcolor(RED);
circle(250,200,40);

setcolor(WHITE);
circle(250,200,20);
getch();
cleardevice();

outtext("Press any key for Traffic Signal");
getch();
cleardevice();

int midx = getmaxx()/2;
    int midy = getmaxy()/2;

setcolor(WHITE);
    rectangle(300,150,360,310);
    circle(330, 180, 22);
    setfillstyle(SOLID_FILL,RED);
    floodfill(330, 180,WHITE);
    delay(2000);

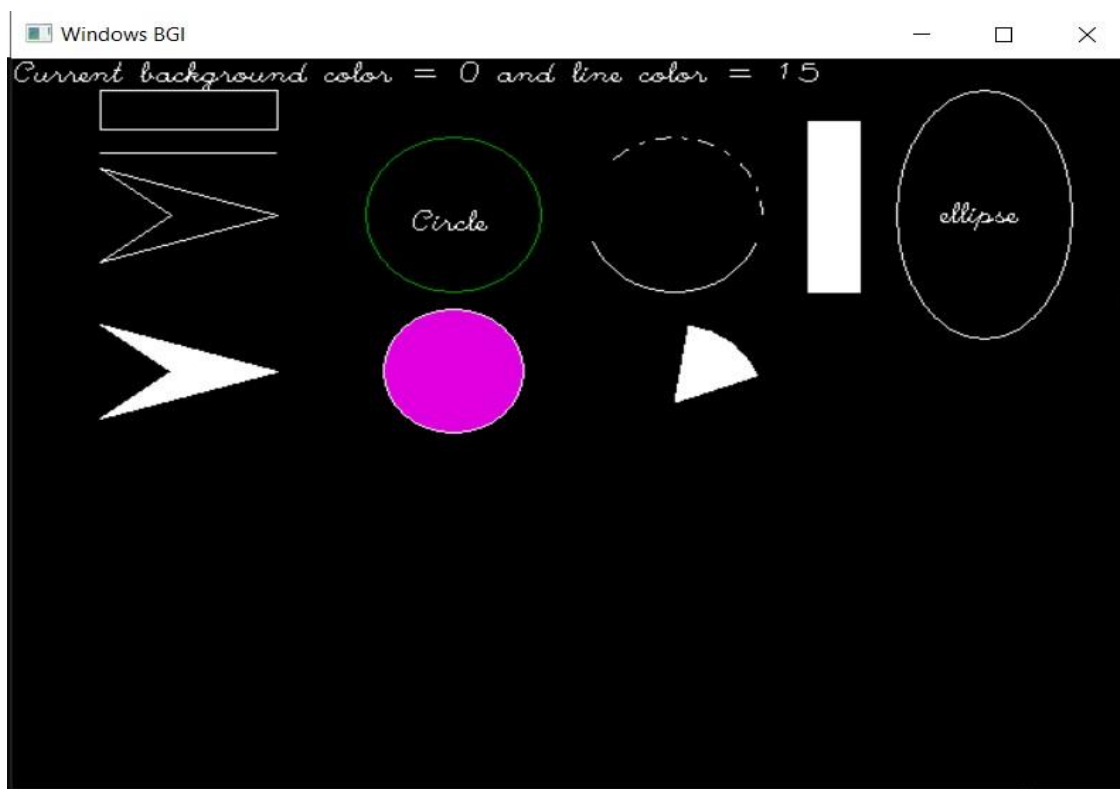
    cleardevice();
    setcolor(WHITE);
    rectangle(300,150,360,310);
    circle(330, 230, 22);
    setfillstyle(SOLID_FILL,YELLOW);
    floodfill(330, 230,WHITE);
    delay(2000);

    cleardevice();
    setcolor(WHITE);
    rectangle(300,150,360,310);
circle(330, 280, 22);
    setfillstyle(SOLID_FILL,GREEN);
    floodfill(330, 280,WHITE);

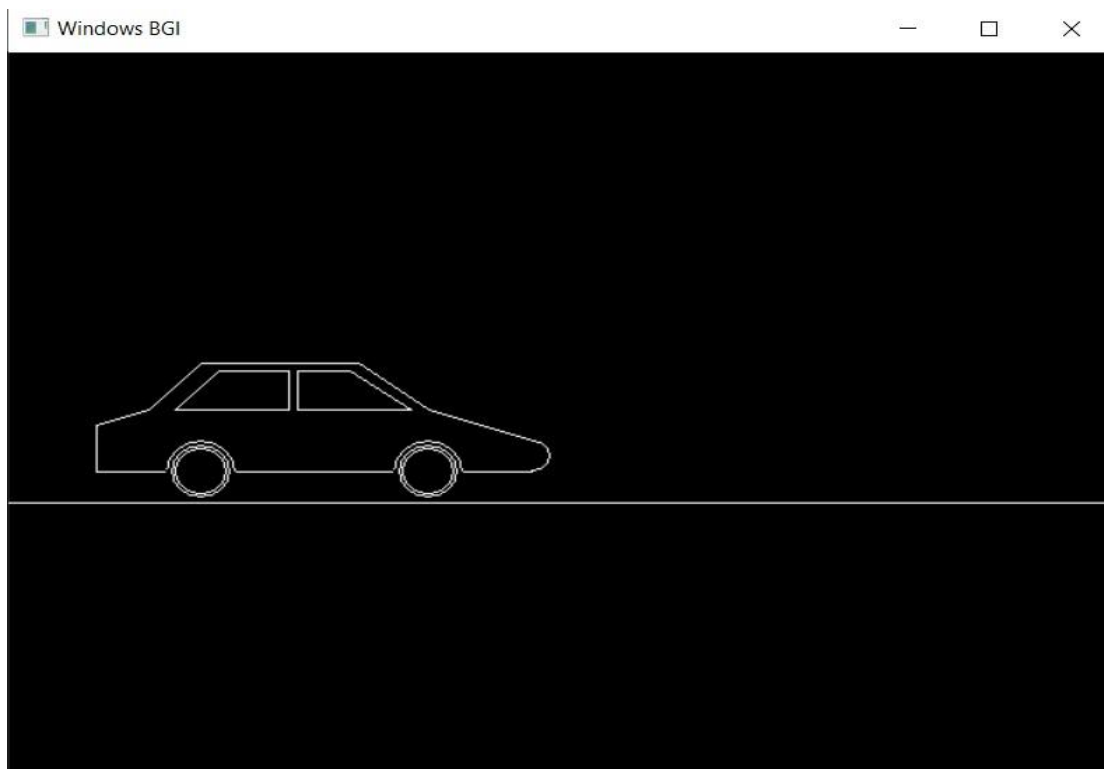
getch();
closegraph();
return 0;
}

```

- Use of various function



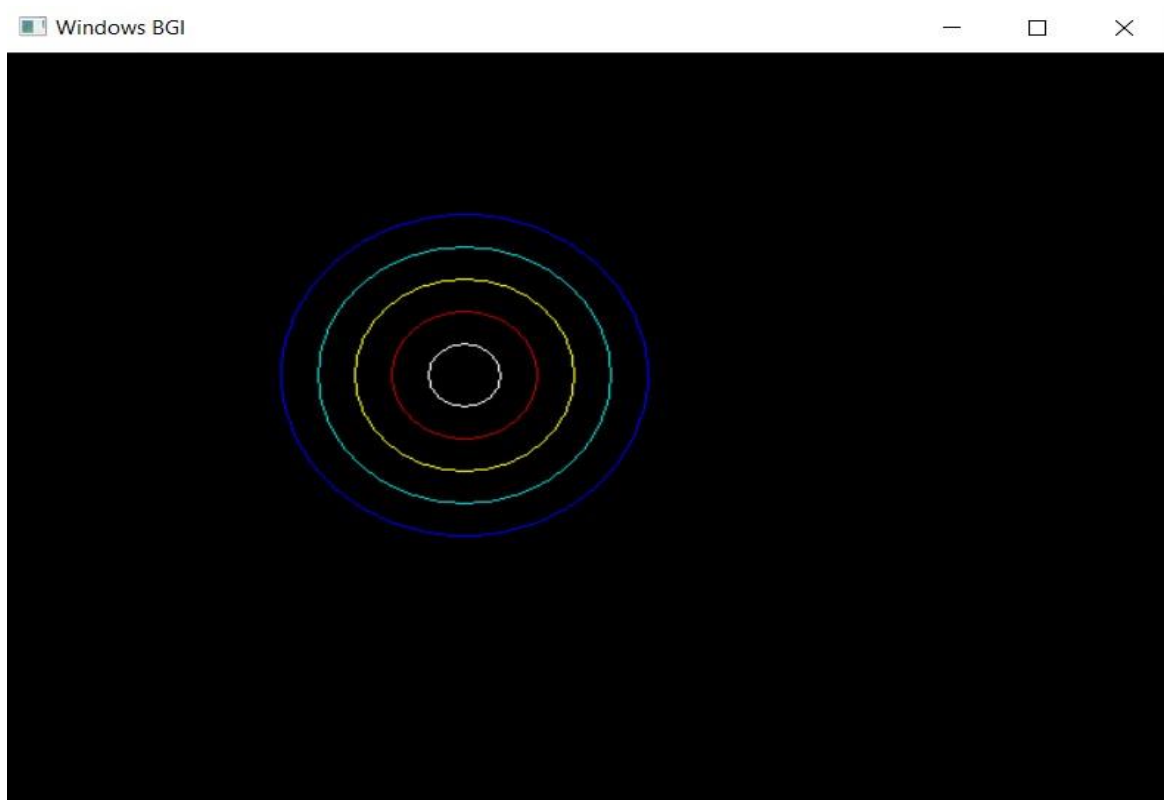
- Draw Car



- Draw Smiley Face



- Draw Circles



- Draw Traffic Signal

