3. Program

/ C program to demonstrate working of traffic light */*

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
#include<graphics.h>
#include<dos.h>
struct signal
 {
  int time;
 };
 void start_sys();
 void set_int();
int main()
 {
 int gd=DETECT,gm,midx,midy,j=0,k,choice;  char interval='y';
 initgraph(&gd,&gm,"C:\\TC\\BGI");
 midx=getmaxx()/2;
 midy=getmaxy()/2;
 rectangle(midx-310,midy-220,midx+320,midy+230);
 rectangle(midx-308,midy-218,midx+318,midy+228);
 setcolor(CYAN);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
 outtextxy(midx-160,midy-210,"BHARATI VIDYAPEETH DEEMED UNIVERSITY,
PUNE");
 setcolor(RED);
 settextstyle(TRIPLEX_FONT,HORIZ_DIR,2);
 outtextxy(midx-250,midy-190,"YASHWANTRAO MOHITE INSTITUTE OF
MANAGEMENT,");
 outtextxy(midx-100,midy-170,"MALKAPUR,KARAD");
 setcolor(WHITE);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
 outtextxy(midx-55,midy-135,"PROJECT REPORT");
 outtextxy(midx-10,midy-120,"ON");
 setcolor(YELLOW);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
 outtextxy(midx-150,midy-105,"TRAFFIC SIGNAL SIMULATOR");
 setcolor(WHITE);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
 settextjustify(CENTER_TEXT,CENTER_TEXT);
 outtextxy(midx,midy-70,"===== Developed By =====");
  setcolor(GREEN);
 outtextxy(midx,midy-50,"1. AMOL A. BHULUGADE");
 outtextxy(midx-16,midy-30,"2. GANRAJ R. DOL");
 outtextxy(midx+4,midy-10,"3. SUMIT S. BHULUGADE");
 outtextxy(midx-6,midy+10,"4. AVADOOT S. PATIL");
 outtextxy(midx+10,midy+30,"5. HRISHIKESH N. JANGAM");
```

```
setcolor(CYAN);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
 outtextxy(midx+65,midy+50,"(BCA-II)");
 setcolor(WHITE);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
 outtextxy(midx,midy+75,"==== Under The Guidance of ====");
 setcolor(GREEN);
 outtextxy(midx+5,midy+95,"Prof.Abhijeet A. Patil");
 setcolor(BLUE);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
 settextjustify(CENTER_TEXT,CENTER_TEXT);
 outtextxy(midx,midy+210," Press any key to continue...");
 getch();
 cleardevice();

  while(j<=442)
 {   setcolor(CYAN);
 settextstyle(GOTHIC_FONT,HORIZ_DIR,5);
 settextjustify(CENTER_TEXT,CENTER_TEXT);
 outtextxy(midx,midy-180,"Traffic SIGNAL SIMULATOR");
  setcolor(WHITE);
  rectangle(midx-330+j,midy,midx-150+j,midy+50);
   rectangle(midx-150+j,midy+18,midx-122+j,midy+50);
 circle(midx-300+j,midy+60,10);
  circle(midx-277+j,midy+60,10);
  circle(midx-138+j,midy+60,10);
 setcolor(WHITE);
  delay(100);
  j=j+10;
  cleardevice();
  }   settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
 settextjustify(CENTER_TEXT,CENTER_TEXT);
 outtextxy(midx,midy+210," Press any key to start...");
 getch();
 cleardevice();

   while (k!=1)
     {
   clrscr();
   settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
 setcolor(BLUE);
 outtextxy(midx-290,midy-135,"====================================");
  setcolor(CYAN);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
 settextjustify(CENTER_TEXT,CENTER_TEXT);
 outtextxy(midx-10,midy-110,"Welcome To Traffic Management System");
 setcolor(BLUE);
 outtextxy(midx,midy-90,"====================================");
 setcolor(YELLOW);
 outtextxy(midx-40,midy-60,"1. Deafault Interval");
 outtextxy(midx,midy-35,"2. Set Time Interval");
 outtextxy(midx-105,midy-10,"3. Quit");
```

```
setcolor(BLUE);
outtextxy(midx,midy+10,"====================================");
setcolor(WHITE);
gotoxy(10,20);
printf("Enter Your Choice: ");
scanf("%d",&choice);
switch(choice)
  {
   case 1: start_sys();
    break;
   case 2: set_int();
    break;
   case 3: exit(0);

   default:
    printf("Invalid Choice \n");
   }

   printf("Do You Want To Set Time Interval?(y/n):");
fflush(stdin);
 scanf("%c",&interval);
 if (interval=='n'||interval=='N')
 k=1;
}
   printf("Thank You For Using Traffic Management System \n");
   getch();
   closegraph();
   return 0;
  }


void  start_sys()
  {
    int midx,midy,i; char a[5];
midx=getmaxx()/2;
midy=getmaxy()/2;

  for (i=10;i>=0;i--)
{
setcolor(WHITE);
settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
rectangle(midx-60,midy-180,midx+60,midy+180);
  rectangle(midx-63,midy-183,midx+63,midy+183);
circle(midx,midy-120,50);
setfillstyle(SOLID_FILL,RED);
floodfill(midx,midy-120,WHITE);
setcolor(BLACK);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
outtextxy(midx,midy-120,"STOP");
settextjustify(CENTER_TEXT,CENTER_TEXT);
settextstyle(DEFAULT_FONT,HORIZ_DIR,7);
```

```
 setcolor(WHITE);
sprintf(a,"%d",i);
  outtextxy(getmaxx()/2-180,getmaxy()/2,a);
  delay(1000);
  cleardevice();
  if (i==0)
  break;
 }
 for (i=5;i>=0;i--)
 {
 setcolor(WHITE);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
 rectangle(midx-60,midy-180,midx+60,midy+180);
  rectangle(midx-63,midy-183,midx+63,midy+183);
 circle(midx,midy,50);
 setfillstyle(SOLID_FILL,YELLOW);
 floodfill(midx,midy,WHITE);
 setcolor(BLACK);
  settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
 outtextxy(midx,midy-1,"READY");
 settextjustify(CENTER_TEXT,CENTER_TEXT);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,7);
 setcolor(WHITE);
sprintf(a,"%d",i);
  outtextxy(getmaxx()/2-180,getmaxy()/2,a);
  delay(1000);
cleardevice();
  if (i==0)
  break;
 }
 for (i=10;i>=0;i--)
 {
 setcolor(WHITE);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
 rectangle(midx-60,midy-180,midx+60,midy+180);
 rectangle(midx-63,midy-183,midx+63,midy+183);
 circle(midx,midy+120,50);
 setfillstyle(SOLID_FILL,GREEN);
 floodfill(midx,midy+120,WHITE);
 setcolor(BLACK);
  settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
 outtextxy(midx-5,midy+120,"GO");
  settextjustify(CENTER_TEXT,CENTER_TEXT);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,7);
 setcolor(WHITE);
sprintf(a,"%d",i);
  outtextxy(getmaxx()/2-180,getmaxy()/2,a);
  delay(1000);
  cleardevice();
  if (i==0)
   break;
 }
}
```

```
Void set_int()
  {
     int midx,midy,i; char a[5];
 midx=getmaxx()/2;
 midy=getmaxy()/2;
 struct signal r,y,g;
 fflush(stdin);
  printf("Set interval for RED in seconds: ");
  scanf("%d\n",&r.time);
  printf("Set interval for YELLOW in seconds: ");
  scanf("%d\n",&y.time);
  printf("Set interval for GREEN in seconds: ");
  scanf("%d\n\n\t",&g.time);
  printf("RED=%dsec\t YELLOW=%dsec\t
Green=%dsec\n\n",r.time,y.time,g.time);

  printf("----Press any key to start the system----");
  getch();
   for (i=r.time;i>=0;i--)
 {
  cleardevice();
 setcolor(WHITE);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
 rectangle(midx-60,midy-180,midx+60,midy+180);
   rectangle(midx-63,midy-183,midx+63,midy+183);
 circle(midx,midy-120,50);
 setfillstyle(SOLID_FILL,RED);
 floodfill(midx,midy-120,WHITE);
 setcolor(BLACK);
  settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
 outtextxy(midx,midy-120,"STOP");
 settextjustify(CENTER_TEXT,CENTER_TEXT);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,7);
 setcolor(WHITE);
sprintf(a,"%d",i);
  outtextxy(getmaxx()/2-180,getmaxy()/2,a);
  delay(1000);
  cleardevice();
  if (i==0)
  break;
 }
 for (i=y.time;i>=0;i--)
 {
 setcolor(WHITE);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
 rectangle(midx-60,midy-180,midx+60,midy+180);
  rectangle(midx-63,midy-183,midx+63,midy+183);
 circle(midx,midy,50);
 setfillstyle(SOLID_FILL,YELLOW);
 floodfill(midx,midy,WHITE);
```

```
setcolor(BLACK);
  settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
 outtextxy(midx,midy-1,"READY");
 settextjustify(CENTER_TEXT,CENTER_TEXT);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,7);
 setcolor(WHITE);
sprintf(a,"%d",i);
  outtextxy(getmaxx()/2-180,getmaxy()/2,a);
  delay(1000);
cleardevice();
  if (i==0)
  break;
 }
 for (i=g.time;i>=0;i--)
 {
 setcolor(WHITE);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,1);
 rectangle(midx-60,midy-180,midx+60,midy+180);
 rectangle(midx-63,midy-183,midx+63,midy+183);
 circle(midx,midy+120,50);
 setfillstyle(SOLID_FILL,GREEN);
 floodfill(midx,midy+120,WHITE);
 setcolor(BLACK);
  settextstyle(DEFAULT_FONT,HORIZ_DIR,2);
 outtextxy(midx-5,midy+120,"GO");
  settextjustify(CENTER_TEXT,CENTER_TEXT);
 settextstyle(DEFAULT_FONT,HORIZ_DIR,7);
 setcolor(WHITE);
sprintf(a,"%d",i);
  outtextxy(getmaxx()/2-180,getmaxy()/2,a);
  delay(1000);
  cleardevice();
  if (i==0)
   break;
 }
}
```