

```
/* Representation of RADAR by using GUI */
```

```
// HEADER FILES USED
```

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

```
#include<conio.h>
```

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

```
#include<dos.h>
```

```
// FUNCTIONS USED
```

```
void principle();
```

```
void distance();
```

```
void direction();
```

```
void close();
```

```
void main()
```

```
{
```

```
int gd=DETECT,gm,x,y;
```

```
initgraph(&gd,&gm,"c:\\turbo3\\bgi"); //Initializing Graphics Mode
```

```
principle();
```

```
distance();
```

```
direction();
```

```
close();
```

```
getch();
```

```
closegraph();
```

```
restorecrtmode();
```

```
}
```

```
void principle()
{
  setbkcolor(BLUE);
  setcolor(WHITE);

  delay(2000);
  rectangle(80,300,180,360);
  setfillstyle(1,YELLOW); // TRANSMITTER
  floodfill(85,305,WHITE);
  setcolor(RED); // ARROW TO DUPLEXER
  settextstyle(11,0,2);
  outtextxy(87,325,"TRANSMITTER");
  delay(1000);

  setcolor(WHITE);
  moveto(180,330);
  lineto(230,330);
  lineto(225,335);
  moveto(230,330);
  lineto(225,325);

  setfillstyle(1,CYAN);
  rectangle(230,300,310,360); // DUPLEXER
  moveto(270,300);
  lineto(270,360);
  floodfill(235,305,WHITE); // PART 1

  setcolor(RED);
  outtextxy(238,325,"DUPLEXER");

  delay(1000);
```

```
setcolor(WHITE);  
moveto(250,300); // ARROW FROM DUPLEXER  
lineto(250,250);  
lineto(255,255);  
moveto(250,250);  
lineto(245,255);  
delay(1000);  
setcolor(RED);  
settextstyle(11,0,2);
```

```
outtextxy(246,85,"ANTENNA");
```

```
setcolor(WHITE);  
rectangle(250,230,290,240); // ANTENNA  
rectangle(245,240,295,250);
```

```
setfillstyle(9,BROWN);  
floodfill(257,232,WHITE);  
floodfill(247,243,WHITE);  
setfillstyle(1,LIGHTGRAY);  
ellipse(290,130,90,89,5,30);  
floodfill(290,130,WHITE);
```

```
setfillstyle(9,BROWN);  
arc(300,130,105,255,31);  
floodfill(275,130,WHITE);
```

```
setfillstyle(7,BROWN);  
moveto(260,230);  
lineto(270,140);
```

```
moveto(280,230);
lineto(270,140);
floodfill(275,225,WHITE);

rectangle(255,115,268,145);
rectangle(250,120,255,140);
setfillstyle(1,DARKGRAY);
floodfill(258,117,WHITE);
floodfill(253,123,WHITE);
delay(1000);

setcolor(WHITE);

moveto(290,125);
lineto(530,47);

moveto(530,47); // ARROW TO TARGET
lineto(525,52);
moveto(530,47);
lineto(524,44);

setcolor(RED);
settextstyle(11,0,2);
outtextxy(515,25,"TARGET");
setcolor(WHITE);
setfillstyle(1,LIGHTGREEN); // TARGET
circle(540,50,10);
floodfill(540,50,WHITE);
delay(500);
setfillstyle(1,RED);
floodfill(540,50,WHITE);
```

```
delay(500);  
setfillstyle(1,LIGHTGREEN);  
floodfill(540,50,WHITE);  
delay(500);  
delay(1000);  
moveto(534,57); // ARROW TO ANTENNA  
lineto(296,137);
```

```
moveto(296,137);  
lineto(300,141);  
moveto(296,137);  
lineto(299,131);
```

```
delay(1000);  
moveto(290,250); // ARROW TO DUPLEXER  
lineto(290,300);  
lineto(285,295);  
moveto(290,300);  
lineto(295,295);
```

```
setfillstyle(1,CYAN);  
floodfill(275,305,WHITE); // PART 2
```

```
setcolor(RED);  
settextstyle(11,0,2);  
outtextxy(238,325,"DUPLEXER");  
delay(1000);
```

```
setcolor(WHITE);  
moveto(310,330); // ARROW TO RECEIVER  
lineto(360,330);
```

```
lineto(355,325);  
moveto(360,330);  
lineto(355,335);  
setfillstyle(1,YELLOW);  
rectangle(360,300,440,360); // RECEIVER  
floodfill(365,305,WHITE);
```

```
setcolor(RED);  
settextstyle(11,0,2);  
outtextxy(368,325,"RECEIVER");
```

```
delay(1000);  
setcolor(WHITE);  
moveto(440,330); // ARROW TO DISPLAY  
lineto(490,330);  
lineto(485,325);  
moveto(490,330);  
lineto(485,335);
```

```
setfillstyle(1,CYAN);  
circle(540,330,50); // DISPLAY  
floodfill(540,330,WHITE);
```

```
setcolor(RED);  
settextstyle(11,0,2);  
outtextxy(515,327,"DISPLAY");  
delay(3000);  
cleardevice();
```

```
}
```

```
void distance()
{

setbkcolor(RED);
setcolor(BLUE);

ellipse(200,200,90,89,10,40); // ANTENNA
arc(210,200,105,255,42);
rectangle(130,360,180,385);
moveto(140,360);
lineto(155,220);
moveto(170,360);
lineto(155,220);
rectangle(145,180,167,220);
rectangle(135,190,145,210);
setcolor(WHITE);
settextstyle(11,0,2);
outtextxy(127,400,"ANTENNA");

setcolor(BLUE);
setfillstyle(1,YELLOW);
floodfill(200,200,BLUE);
setfillstyle(9,BROWN);
floodfill(135,365,BLUE);
setfillstyle(7,BROWN);
floodfill(155,340,BLUE);
setfillstyle(9,LIGHTGREEN);
floodfill(147,182,BLUE);
floodfill(140,195,BLUE);
setfillstyle(9,LIGHTGREEN);
floodfill(180,200,BLUE);
```

```
setcolor(WHITE); // TIMER
```

```
circle(110,80,15);
```

```
circle(160,80,15);
```

```
rectangle(80,50,190,110);
```

```
settextstyle(11,0,2);
```

```
outtextxy(115,35,"TIMER");
```

```
setfillstyle(1,BLUE);
```

```
floodfill(110,80,WHITE);
```

```
floodfill(160,80,WHITE);
```

```
floodfill(90,60,WHITE);
```

```
outtextxy(102,100,"ON");
```

```
outtextxy(149,100,"OFF");
```

```
setcolor(BLUE);
```

```
circle(570,200,7); // TARGET
```

```
setfillstyle(1,YELLOW);
```

```
floodfill(570,200,BLUE);
```

```
setcolor(WHITE);
```

```
outtextxy(550,215,"TARGET");
```

```
setfillstyle(1,YELLOW);
```

```
floodfill(110,80,WHITE);
```

```
setlinestyle(3,0,3); // RAY FROM ANTENNA TO TARGET
```

```
setcolor(WHITE);
```

```
circle(220,200,2);
```

```
delay(250);
```

```
setcolor(RED);
```

```
circle(220,200,2);
```

```
setcolor(WHITE);
```



```
circle(240,200,2);  
delay(250);  
setcolor(RED);  
circle(240,200,2);  
setcolor(WHITE);  
circle(260,200,2);  
delay(250);  
setcolor(RED);  
circle(260,200,2);  
setcolor(WHITE);  
circle(280,200,2);  
delay(250);  
setcolor(RED);  
circle(280,200,2);  
setcolor(WHITE);  
circle(300,200,2);  
delay(250);  
setcolor(RED);  
circle(300,200,2);  
setcolor(WHITE);  
circle(320,200,2);  
delay(250);  
setcolor(RED);  
circle(320,200,2);  
setcolor(WHITE);  
circle(340,200,2);  
delay(250);  
setcolor(RED);  
circle(340,200,2);  
setcolor(WHITE);  
circle(360,200,2);
```

```
delay(250);
setcolor(RED);
circle(360,200,2);
setcolor(WHITE);
circle(380,200,2);
delay(250);
setcolor(RED);
circle(380,200,2);
setcolor(WHITE);
circle(400,200,2);
delay(250);
setcolor(RED);
circle(400,200,2);
setcolor(WHITE);
circle(420,200,2);
delay(250);
setcolor(RED);
circle(420,200,2);
setcolor(WHITE);
circle(440,200,2);
delay(250);
setcolor(RED);
circle(440,200,2);
setcolor(WHITE);
circle(460,200,2);
delay(250);
setcolor(RED);
circle(460,200,2);
setcolor(WHITE);
circle(480,200,2);
delay(250);
```

```
setcolor(RED);  
circle(480,200,2);  
setcolor(WHITE);  
circle(500,200,2);  
delay(250);  
setcolor(RED);  
circle(500,200,2);  
setcolor(WHITE);  
circle(520,200,2);  
delay(250);  
setcolor(RED);  
circle(520,200,2);  
setcolor(WHITE);  
circle(540,200,2);  
delay(250);  
setcolor(RED);  
circle(540,200,2);  
setcolor(WHITE);  
circle(558,200,2);  
delay(250);  
setcolor(RED);  
circle(558,200,2);
```

```
setcolor(WHITE);  
setlinestyle(3,0,3);  
circle(570,200,50);  
delay(500);  
setcolor(RED);  
circle(570,200,50);  
setcolor(WHITE);  
circle(570,200,100);
```

```
delay(500);
setcolor(RED);
circle(570,200,100);
setcolor(WHITE);
circle(570,200,150);
delay(500);
setcolor(RED);
circle(570,200,150);
setcolor(WHITE);
arc(570,200,110,250,200);
delay(500);
setcolor(RED);
arc(570,200,110,250,200);
setcolor(WHITE);
arc(570,200,120,240,250);
delay(500);
setcolor(RED);
arc(570,200,120,240,250);
setcolor(WHITE);
arc(570,200,135,230,300);
delay(500);
setcolor(RED);
arc(570,200,135,230,300);
setcolor(WHITE);
arc(573,200,145,220,360);
delay(250);
setcolor(RED);
arc(573,200,145,220,360);

setfillstyle(1,BLUE);
floodfill(110,80,WHITE);
```

```
setfillstyle(1,YELLOW);  
floodfill(160,80,WHITE);  
delay(3000);  
cleardevice();  
}
```

```
void direction()  
{  
setbkcolor(BLACK);  
setlinestyle(0,1,2);  
setcolor(WHITE);
```

```
rectangle(95,400,165,415); // ANTENNA  
moveto(110,400);  
lineto(130,198);  
moveto(150,400);  
lineto(130,198);  
rectangle(80,415,180,430);  
setfillstyle(7,BROWN);  
floodfill(130,390,WHITE);  
setfillstyle(9,BROWN);  
floodfill(96,401,WHITE);  
floodfill(81,416,WHITE);  
rectangle(98,158,128,208);  
rectangle(88,168,98,198);  
ellipse(173,180,90,89,10,60);  
arc(193,180,107,253,64);  
setfillstyle(9,BROWN);  
floodfill(100,160,WHITE);  
floodfill(90,170,WHITE);  
setfillstyle(1,YELLOW);
```

```
floodfill(173,180,WHITE);  
setfillstyle(9,LIGHTGREEN);  
floodfill(150,180,WHITE);  
  
settextstyle(7,0,4);  
setcolor(YELLOW);  
outtextxy(70,70,"Antenna");  
  
delay(2000);  
  
setcolor(WHITE);  
ellipse(363,180,270,90,50,30); // RADIATION PATTERN  
moveto(183,180);  
lineto(363,150);  
moveto(183,180);  
lineto(363,210);  
setfillstyle(1,BLUE);  
floodfill(363,180,WHITE);  
delay(1000);  
setcolor(YELLOW);  
settextstyle(11,0,2);  
outtextxy(225,177,"Radiation Pattern");  
delay(2000);  
  
setcolor(WHITE);  
setfillstyle(1,RED);  
circle(395,199,3);  
floodfill(395,199,WHITE);  
circle(340,156,3);  
floodfill(340,156,WHITE);  
setcolor(YELLOW);
```

moveto(345,164);

lineto(352,164);

lineto(352,158);

lineto(359,158);

lineto(359,164);

lineto(366,164);

moveto(397,211);

lineto(404,211);

lineto(404,205);

lineto(411,205);

lineto(411,211);

lineto(418,211);

setcolor(YELLOW);

settextstyle(11,0,2);

outtextxy(340,230,"LOW STRENGTH ECHO");

outtextxy(270,135,"LOW STRENGTH ECHO");

delay(2000);

setcolor(WHITE);

setfillstyle(1,RED);

circle(368,178,3);

floodfill(368,178,WHITE);

setcolor(YELLOW);

moveto(375,185);

lineto(382,185);

lineto(382,169);

lineto(389,169);

lineto(389,185);

lineto(396,185);

```
outtextxy(425,175,"HIGH STRENGTH ECHO");  
delay(3000);  
cleardevice();  
}  
  
void close()  
{  
    setbkcolor(YELLOW);  
    setcolor(BLUE);  
    settextstyle(7,HORIZ_DIR,4);  
    outtextxy(160,180,"***** THANK YOU *****");  
    outtextxy(120,280," Press any key to EXIT");  
  
}
```