17/FET/BCG(L)/001

EXPERIMENT 1:-

```
xb=[80;90;99;108;116;125;133;141;151; 160;169;179;180]
yb=[0;-2;-5;-9;-15;-18;-23;-29;-28;-25;-21;-20;-17]
xf=0
yf=50
V=20

function [D]=Dist(XB, YB, XF, YF)

    D=sqrt((YB-YF)^2+(XB-XF)^2)          // error was here
endfunction

function [xf, yf]=NextPos(XB, YB, XF, YF, V)

   [d]=Dist(XB,YB,XF,YF)
   sin0=(YB-YF)/d
   cos0=(XB-XF)/d
   xf=XF+V*cos0
   yf=YF+V*sin0
endfunction

for i=1:12
  [d]=Dist(xb(i),yb(i),xf,yf)
  disp(d)
   if d <=10 then
   disp("bombed")
   break
elseif i > 12 then   //error was here
    disp("bomber escaped")
    else
   [xf,yf]=NextPos(xb(i),yb(i),xf,yf,V)
   end
end;
```

```
   53.006895
   53.006895
yf  =
   1.1199597
xf  =
   87.197187
d  =
   42.363021
   42.363021
yf  =
 - 7.9067619
xf  =
   105.04427
d  =
   31.769935
   31.769935
yf  =
 - 17.408348
xf  =
   122.64313
d  =
   21.710393
   21.710393
yf  =
 - 28.086784
xf  =
   139.5538
d  =
   11.446524
   11.446524
yf  =
 - 27.93515
xf  =
   159.55323
d  =
   2.9689578
   2.9689578
bombed
```