*//Parameters definitinos*

xb=[80;90;99;108;116;125;133;141;151; 160;169;179;180] *//x position array of bomber*

yb=[0;-2;-5;-9;-15;-18;-23;-29;-28;-25;-21;-20;-17] *//y position array of bomber*

xf=0 *//initial x position of fighter plane*

yf=50 *// iniitial y positino of fighter plane*

V=20 *//velocity of the figher plane in Km/s*

*// user defined functions*

function [**D**]=Dist(**XB**, **YB**, **XF**, **YF**) *//functino to calculate the distance between bomber and fighter planes*

**D**=sqrt((**YB**-**YF**)^2+(**XB**-**XF**)^2)

endfunction

function [**xf**, **yf**]=NextPos(**XB**, **YB**, **XF**, **YF**, **V**) *//function to calculate the next position of fighter plane*

[d]=Dist(**XB**,**YB**,**XF**,**YF**)

sin0=(**YB**-**YF**)/d

cos0=(**XB**-**XF**)/d

**xf**=**XF**+**V**\*cos0

**yf**=**YF**+**V**\*sin0

endfunction

*//main simulation program*

for i=1:12

[d]=Dist(xb(i),yb(i),xf,yf)

disp(d)

if d <=10 then *//if distance between bomber and figher is less than or equal to 10 km bomber is shot down by fighter*

disp("bombed")

break

elseif i > 11 then *// if the attack window of 11 minutes is done the bomber is escaped*

disp("bomber escaped")

else

[xf,yf]=NextPos(xb(i),yb(i),xf,yf,V)

end

end;