

Pure Pursuit Problem

Implementation of Pure Pursuit Problem:

```
#include<stdio>
#include<iostream>
#include<conio>
#include<math.h>

void main(){
    int i,v=20,time=12,xb[15]={80,90,99,108,116,125,133,141,151,160,169,179,180};
    int yb[15]={0,-2,-5,-9,-15,-18,-23,-29,-28,-25,-21,-20,-17};
    float yf[15],xf[15],dist,sqy,sqx,sin,cos;
    xf[0]=0;yf[0]=50;
    printf("\t\t\t\t\tPure Pursuit Problem\n");
    for(i=0;i<=time;i++){
        sqy=(yb[i]-yf[i])*(yb[i]-yf[i]);
        sqx=(xb[i]-xf[i])*(xb[i]-xf[i]);
        dist=sqrt(sqx+sqy);
        printf("\ndistance between fighter and bomber : %5f",dist);
        if(dist<=10.0){
            printf("\n\ndestroyed at (%d,%d) of bomber & (%5f,%5f)of fighter.",xb[i],yb[i],xf[i],yf[i]);
            break;
        }
        sin=(yb[i]-yf[i])/dist;
        cos=(xb[i]-xf[i])/dist;
        xf[i+1]=xf[i]+v*cos;
        yf[i+1]=yf[i]+v*sin;
    }
    if(i>time)
        printf("\n\nBomber escaped!! :-(");
    getch();
}
```

OUTPUT

```
Pure Pursuit Problem
distance between fighter and bomber : 94.339813
distance between fighter and bomber : 83.957184
distance between fighter and bomber : 73.289024
distance between fighter and bomber : 63.116047
distance between fighter and bomber : 53.006893
distance between fighter and bomber : 42.363018
distance between fighter and bomber : 31.769930
distance between fighter and bomber : 21.710386
distance between fighter and bomber : 11.446511
distance between fighter and bomber : 2.968953
destroyed at (160,-25) of bomber & (159.553238,-27.935146)of fighter.
```

[[http://1.bp.blogspot.com/-](http://1.bp.blogspot.com/-ZVaoh3jn16o/UzAfNGL1s9I/AAAAAAAAAeg/gDKRfsFmDH8/s1600/purepusuit.PNG)

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Posted 24th March 2014 by [Muddassir Iqbal](#)

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Maniruzzaman-Akash 5 December 2017 at 02:14

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