# Predicting in SJF

#include <iostream>

#include <iomanip>

#include <bits/stdc++.h>

using namespace std;

int main()

{

int ac\_t[6];

float pr\_t[9][6]={0};

float alpha[6]={0};

cout<<"Enter the correct time values :"<<endl;

for(int i=0; i<6;i++)

{

cin>>ac\_t[i];

}

cout<<"Enter the value for tau0 :"<<endl;

cin>>pr\_t[0][0];

for(int i=1;i<9;i++)

{

pr\_t[i][0]=pr\_t[0][0];

}

for(int i=0;i<9;i++)

{

float a=(0.1)\*(i+1);

for(int j=0;j<5;j++)

{

pr\_t[i][j+1]=(a\*ac\_t[j])+((1-a)\*pr\_t[i][j]);

}

}

cout<<endl;

cout<<"alph"<<" "<<"t1"<<" "<<"t2"<<" "<<"t3"<<" "<<"t4"<<" "<<"t5"<<" "<<endl;

for(int i=1;i<9;i++)

{

cout<<fixed<<setprecision(1)<<(0.1)\*(i+1)<<" ";

for(int j=1;j<6;j++)

{

cout<<fixed<<setprecision(2)<<pr\_t[i][j]<<" ";

}

cout<<endl;

}

float mini[6]={1000,1000,1000,1000,1000,1000};

for(int j=0;j<6;j++)

{

for(int i=0;i<9;i++)

{

if(mini[j]>=abs(pr\_t[i][j]-ac\_t[j]))

{

mini[j]=abs(pr\_t[i][j]-ac\_t[j]);

alpha[j]=0.1\*(i+1);

}

}

}

cout<<endl<<endl<<"After analyzing the most appropriate value for alpha for each process is :"<<endl;

cout<<endl<<"process"<<" "<<"appr\_alpha"<<" "<<"best\_tau\_value";

for(int i=1;i<6;i++)

{

cout<<endl<<" "<<i<<" "<<fixed<<setprecision(1)<<" "<<alpha[i]<<" "<<pr\_t[int(10\*alpha[i])-1][i];

}

return 0;

}