Lab 7 (OS) Task

Name = Poorab Gangwani

Class = 4B1

Roll-Number = CS191092

#include<iostream>

int main()

{

int processes[100][100],size,position,time=0;

int largest\_priority=0,breaker=0,value;

float Avg\_turnaround=0,Avg\_waitingTime=0;

bool allow[10];

std::cout<<"Enter Number of Processes:";

std::cin>>size;

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

{

processes[i][0]=i+1;

std::cout<<"Process "<<i+1<<std::endl;

std::cout<<"Enter Arrival Time:";

std::cin>>processes[i][1];

std::cout<<"Enter Burst Length:";

std::cin>>processes[i][2];

std::cout<<"Enter Priority:";

std::cin>>processes[i][3];

}

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

{

allow[i]=false;

}

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

{

if(processes[i][3]>largest\_priority)

{

value=processes[i][3];

largest\_priority=processes[i][3];

}

}

value+=1;

while(1)

{

largest\_priority=value;

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

{

if(processes[i][1]<=time && allow[i]==false && processes[i][3]<largest\_priority)

{

largest\_priority=processes[i][3];

position=i;

}

}

time+=processes[position][2];

allow[position]=true;

std::cout<<processes[position][0]<<"->"<<processes[position][1]<<"->"<<processes[position][2]<<"->"<<time<<"\n";

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

{

if(allow[i]==true && i==size-1) breaker=1;

else if(allow[i]==false) break;

}

processes[position][4]=time;

processes[position][5]=processes[position][4]-processes[position][1];

processes[position][6]=processes[position][5]-processes[position][2];

if(breaker==1) break;

}

std::cout<<"Process ID | Arrival Time | Burst Time | Priority | Completion Time | Turnaround Time | Waiting Time\n";

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

{

Avg\_turnaround+=processes[i][5];

Avg\_waitingTime+=processes[i][6];

std::cout<<processes[i][0]<<"\t\t"<<processes[i][1]<<"\t\t"<<processes[i][2]<<"\t\t"<<processes[i][3]<<"\t\t"<<processes[i][4]<<"\t\t"<<processes[i][5]<<"\t\t"<<processes[i][6]<<"\n";

}

std::cout<<"Average Turnaround Time = "<<Avg\_turnaround/size<<std::endl;

std::cout<<"Average Waiting Time = "<<Avg\_waitingTime/size;

}

