#include<iostream>

#include<conio.h>

#include<vector>

#include<algorithm>

#include<cmath>

using namespace std;

int main(){

int n;

cout<<"Time slot is of 1 duration"<<endl;

cout<<"enter the number of users"<<endl;

cin>>n;

cout<<"Enter the arrival time and duration of packets"<<endl;

vector<int> arrival(n);

vector<int> duration(n);

vector<int> completion(n);

int i=0;

while(i<n){

float temp\_arrival,temp\_duration;

cin>>temp\_arrival>>temp\_duration;

//temp\_arrival%1==0 && temp\_duration%1==0

if(fmod(temp\_arrival,1.0)==0 && fmod(temp\_duration,1.0)==0){

arrival[i]=(int)temp\_arrival;

duration[i]=(int)temp\_duration;

i++;

}

else{

cout<<"Cannot send packet in the middle of time slot....send at beginning"<<endl;

}

}

for(int i=0;i<n;i++){

completion[i]=arrival[i]+duration[i];

}

cout<<"Collision between packets: "<<endl;

for(int i=0;i<n;i++){

for(int j=i+1;j<n;j++){

if((arrival[j] >= arrival[i]) && (arrival[j]<=completion[i])){

cout<<i+1<<" "<<j+1<<" ";

cout<<"from time "<<max(arrival[i],arrival[j])<<" and "<<min(completion[i],completion[j])<<endl;

}

}

}

}

Output:

Time slot is of 1 duration

enter the number of users

3

Enter the arrival time and duration of packets

1 2

2 3

2 2

Collision between packets:

1 2 from time 2 and 3

1 3 from time 2 and 3

2 3 from time 2 and 4

Time slot is of 1 duration

enter the number of users

3

Enter the arrival time and duration of packets

1.5 2

Cannot send packet in the middle of time slot....send at beginning

1 2

2.4 3

Cannot send packet in the middle of time slot....send at beginning

2 3

2 2

Collision between packets:

1 2 from time 2 and 3

1 3 from time 2 and 3

2 3 from time 2 and 4