**Program:**

import java.util.\*;

class Patient {

int id, severity, treatmentTime;

Patient(int id, int severity, int treatmentTime) {

this.id = id;

this.severity = severity;

this.treatmentTime = treatmentTime;

}

}

public class HospitalScheduling {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int n = sc.nextInt(), doctors = sc.nextInt();

PriorityQueue<Patient> pq = new PriorityQueue<>((a, b) -> {

if (b.severity != a.severity) return b.severity - a.severity;

return a.treatmentTime - b.treatmentTime;

});

for (int i = 0; i < n; i++) pq.add(new Patient(i + 1, sc.nextInt(), sc.nextInt()));

int[] doctorTime = new int[doctors];

double totalWait = 0;

while (!pq.isEmpty()) {

Patient p = pq.poll();

int minIdx = 0;

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

if (doctorTime[i] < doctorTime[minIdx]) minIdx = i;

totalWait += doctorTime[minIdx];

doctorTime[minIdx] += p.treatmentTime;

System.out.println("Patient " + p.id + " (S=" + p.severity + ") treated by Doctor " + (minIdx + 1));

}

System.out.printf("Average waiting time: %.2f minutes\n", totalWait / n);

}

}

**Output:**

**Input:**

6 3

5 30

3 40

4 20

5 10

2 50

1 60

**Output:**

Patient 1 (S=5) treated by Doctor 1

Patient 4 (S=5) treated by Doctor 2

Patient 3 (S=4) treated by Doctor 3

Patient 2 (S=3) treated by Doctor 2

Patient 5 (S=2) treated by Doctor 1

Patient 6 (S=1) treated by Doctor 3

Average waiting time: 16.67 minutes

**Result:**