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package CPUScheduling;

import java.util.Scanner;

public class Priority_Scheduling {
//Sai Kham Sheng 5717607
    public static void main(String[] args) {
        Scanner sn = new Scanner (System.in);
        System.out.println("Priority Scheduling");
        System.out.print("Enter number of process: ");
        int n = sn.nextInt();

        int [] burstTime = new int [n];
        int [] schedulingTime = new int [n];
        int [] criticalTime = new int [n];
        int [] k = new int [n];
        int[] nonPriority = new int[n];
        int CT, ST = 0;
        int priority = 0;
        int process = 0;

        System.out.println("Enter Burst time for each process");
        for (int i = 0; i < n; i++) {
            System.out.print("P" + (i + 1) + ": ");
            process = sn.nextInt();
            nonPriority[i] = process;
        }
        System.out.println("Enter Priority for each");
        for (int i=0;i<n;i++){
            System.out.print("Priority: ");
            priority = sn.nextInt();
            burstTime[priority-1] = process;
            k[priority-1] = i+1;
        }
        schedulingTime[0] = ST;
        CT = burstTime[0];
        criticalTime[0] = CT;

        for (int i = 1; i < n; i++) {
            ST = criticalTime[i - 1];
            schedulingTime[i] = ST;
            CT = burstTime[i] + criticalTime[i - 1];
            criticalTime[i] = CT;
        }

        for (int i = 0; i < nonPriority.length; i++) {
            for (int j = 0; j < burstTime.length; j++) {
                if(nonPriority[i] == burstTime[j]) {

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        nonPriority[i] = j;
    }
}
System.out.println("Process\tST\tCT");

for (int i=0;i<n;i++){
    System.out.println(k[i]+"\\t"+schedulingTime[i]
+"\\t"+criticalTime[i]);
}
int WTResult = 0;
for (int i=0; i<n; i++){
    WTResult += schedulingTime[i];
}
System.out.println("Avg waiting time: "+(double) WTResult / n
+ " times");
sn.close();
}
}

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