**CODE:-**

**import java.util.\*;**

**class PriorityScheduling {**

**public static void main(String[] args) {**

**System.out.println("\*\*\* Priority Scheduling (Preemptive) \*\*\*");**

**System.out.print("Enter Number of Process: ");**

**Scanner sc = new Scanner(System.in);**

**int n = sc.nextInt();**

**String process[] = new String[n];**

**int arrivaltime[] = new int[n];**

**int burstTime[] = new int[n];**

**int completionTime[] = new int[n];**

**int priority[] = new int[n+1];**

**int TAT[] = new int[n];**

**int waitingTime[] = new int[n];**

**int burstTimecopy[]=new int[n];**

**int min=0,count=0;**

**int time = 0,end;**

**double avgWT=0,avgTAT=0;**

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

**process[i] = "P" + (i+1);**

**System.out.println("");**

**System.out.print("Enter Arrival Time for processor " + (i+1) + ":");**

**arrivaltime[i] = sc.nextInt();**

**System.out.print("Enter Burst Time for processor " + (i+1) + " : ");**

**burstTime[i] = sc.nextInt();**

**System.out.print("Enter Priority for " + (i+1) + " process: ");**

**priority[i] = sc.nextInt();**

**}**

**System.arraycopy(burstTime, 0, burstTimecopy, 0, n);**

**priority[n]=999;**

**for(time =0;count!=n;time++){**

**min=n;**

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

**if(arrivaltime[i]<=time && priority[i]<priority[min] && burstTime[i]>0)**

**min=i;**

**}**

**burstTime[min]--;**

**if(burstTime[min]==0){**

**count++;**

**end=time+1;**

**completionTime[min]=end;**

**waitingTime[min]=end -arrivaltime[min]-burstTimecopy[min];**

**TAT[min]=end-arrivaltime[min];**

**}**

**}**

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

**{**

**avgTAT += TAT[i];**

**avgWT += waitingTime[i];**

**}**

**System.out.println("\n\*\*\* Priority Scheduling (Preemptive) \*\*\*");**

**System.out.println("Processor\tArrival time\tBrust time\tCompletion Time\t\tTurn around time\tWaiting time");**

**System.out.println("----------------------------------------------------------------------------------------------------------");**

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

**System.out.println(process[i]+"\t\t"+arrivaltime[i]+"ms\t\t"+burstTimecopy[i]+"ms\t\t"+completionTime[i]+"ms\t\t\t"+TAT[i]+"ms\t\t\t"+waitingTime[i]+"ms");**

**}**

**avgWT/= n;**

**avgTAT/= n;**

**System.out.println("\nAverage Wating Time: " + avgWT);**

**System.out.println("Average Turn Around Time: " + avgTAT);**

**}**

**}**

**OUTPUT: -**

\*\*\* Priority Scheduling (Preemptive) \*\*\*

Enter Number of Process: 7

Enter Arrival Time for processor 1:0

Enter Burst Time for processor 1 : 1

Enter Priority for 1 process: 2

Enter Arrival Time for processor 2:1

Enter Burst Time for processor 2 : 7

Enter Priority for 2 process: 6

Enter Arrival Time for processor 3:2

Enter Burst Time for processor 3 : 3

Enter Priority for 3 process: 3

Enter Arrival Time for processor 4:3

Enter Burst Time for processor 4 : 6

Enter Priority for 4 process: 5

Enter Arrival Time for processor 5:4

Enter Burst Time for processor 5 : 5

Enter Priority for 5 process: 4

Enter Arrival Time for processor 6:5

Enter Burst Time for processor 6 : 15

Enter Priority for 6 process: 10

Enter Arrival Time for processor 7:15

Enter Burst Time for processor 7 : 8

Enter Priority for 7 process: 9

\*\*\* Priority Scheduling (Preemptive) \*\*\*

Processor Arrival time Brust time Completion Time Turn around time Waiting time

----------------------------------------------------------------------------------------------------------

P1 0ms 1ms 1ms 1ms 0ms

P2 1ms 7ms 22ms 21ms 14ms

P3 2ms 3ms 5ms 3ms 0ms

P4 3ms 6ms 16ms 13ms 7ms

P5 4ms 5ms 10ms 6ms 1ms

P6 5ms 15ms 45ms 40ms 25ms

P7 15ms 8ms 30ms 15ms 7ms

Average Wating Time: 7.714285714285714

Average Turn Around Time: 14.142857142857142