***SJF -Preemptive***

***SJFPre.java***

**import** java.util.Scanner;

**public** **class** SJFPre {

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

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

System.***out***.println("Enter number of processes:");

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

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

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

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

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

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

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

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

**float** atat = 0;

**float** awt = 0;

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

System.***out***.println("Enter the process id:");

pid[i] = sc.nextInt();

System.***out***.println("Enter the Arrival time:");

at[i] = sc.nextInt();

System.***out***.println("Enter the Burst time:");

bt[i] = sc.nextInt();

bttt[i] = bt[i];

}

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

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

F[i] = 0;

}

**int** st = 0;

**int** total = 0;

**while** (**true**) {

**int** min = Integer.***MAX\_VALUE***;

**int** c = n;

**if** (total == n)

**break**;

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

**if** (at[i] <= st && F[i] == 0 && min > bt[i]) {

min = bt[i];

c = i;

}

}

**if** (c == n) {

st++;

} **else** {

bt[c]--;

st++;

**if** (bt[c] == 0) {

ct[c] = st;

total++;

F[c] = 1;

}

}

}

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

tat[i] = ct[i] - at[i];

wt[i] = tat[i] - bttt[i];

atat += tat[i];

awt += wt[i];

}

System.***out***.println("PID\tAT\tBT\tCT\tTAT\tWT");

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

System.***out***.println(pid[i] + "\t" + at[i] + "\t" + bttt[i] + "\t" + ct[i] + "\t" + tat[i] + "\t" + wt[i]);

}

System.***out***.println("Average TAT and WT are: ");

System.***out***.println("ATAT = " + (atat / n) + "\t" + "AWT = " + (awt / n));

sc.close();

}

}

OUTPUT:-

