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```java
import java.util.*;
public class CSE2008_Lab3 {
public static void main(String args[]) {
Scanner sc = new Scanner(System.in);
System.out.print("CSE2008 (Operating Systems) Lab-3");
System.out.print("\n");
System.out.print("\n");
System.out.print("ENTER NUMBER OF PROCESSES: ");
int n = sc.nextInt();
int pid[] = new int [n];
int ar[] = new int [n];
int bt[] = new int [n];
int ct[] = new int [n];
int ta[] = new int [n];
int wt[] = new int [n];
int temp;
float avgwt = 0, avgta = 0;
for(int i = 0; i < n; i++) {
System.out.print("\nPROCESSES: " + (i + 1) + "\nENTER ARRIVAL TIME:
");
ar[i] = sc.nextInt();
System.out.print("\nPROCESSES: " + (i + 1) + "\nENTER BURST TIME:");
bt[i] = sc.nextInt();
pid[i] = i + 1; }
for(int i = 0; i < n; i++) {
for(int j = 0; j < n - (i + 1); j++) {
if(ar[j] > ar[j + 1]) {
temp = ar[j];
ar[j] = ar[j + 1];
ar[j + 1] = temp;
temp = bt[j];
bt[j] = bt[j + 1];
bt[j + 1] = temp;
temp = pid[j];
pid[j] = pid[j + 1];
pid[j + 1] = temp; }
} }
for (int i = 0 ; i < n; i++) {
if(i == 0) {
ct[i] = ar[i] + bt[i]; }
else {
if(ar[i] > ct[i - 1]) {
ct[i] = ar[i] + bt[i]; }
else
```

```java
ct[i] = ct[i - 1] + bt[i]; }
ta[i] = ct[i] - ar[i];
wt[i] = ta[i] - bt[i];
avgwt += wt[i];
avgta += ta[i]; }
System.out.println("\n PID ARRIVAL BURST COMPLETE TURN WAITING");
for(int i = 0 ; i < n; i++) {
System.out.println(pid[i] +"\t\t" + ar[i] +"\t\t" + bt[i] +"\t\t" +
ct[i] + "\t\t"
+ ta[i] +"\t\t" + wt[i]); }
sc.close();
System.out.println("\nAVERAGE WAITING TIME: " + (avgwt/n));
System.out.println("AVERAGE TURNAROUND TIME: " + (avgta/n)); }
}
```

```
CSE2008 (Operating Systems) Lab-3

ENTER NUMBER OF PROCESSES: 5

PROCESSES: 1
ENTER ARRIVAL TIME: 0

PROCESSES: 1
ENTER BURST TIME: 10

PROCESSES: 2
ENTER ARRIVAL TIME: 9

PROCESSES: 2
ENTER BURST TIME: 6

PROCESSES: 3
ENTER ARRIVAL TIME: 17

PROCESSES: 3
ENTER BURST TIME: 19

PROCESSES: 4
ENTER ARRIVAL TIME: 23

PROCESSES: 4
ENTER BURST TIME: 13

PROCESSES: 5
ENTER ARRIVAL TIME: 41

PROCESSES: 5
ENTER BURST TIME: 22
```

| PID | ARRIVAL | BURST | COMPLETE | TURN | WAITING |
|-----|---------|-------|----------|------|---------|
| 1 | 0 | 10 | 10 | 10 | 0 |
| 2 | 9 | 6 | 16 | 7 | 1 |
| 3 | 17 | 19 | 36 | 19 | 0 |
| 4 | 23 | 13 | 49 | 26 | 13 |
| 5 | 41 | 22 | 71 | 30 | 8 |

```
AVERAGE WAITING TIME: 4.4
AVERAGE TURNAROUND TIME: 18.4
```