FCFS Code

```
import java.util.*;

public class FCFS {
public static void main(String args[])
{
Scanner sc = new Scanner(System.in);
System.out.println("enter no of process: ");
int n = sc.nextInt();
int pid[] = new int[n];   // process ids
int ar[] = new int[n];     // arrival times
int bt[] = new int[n];     // burst or execution times
int ct[] = new int[n];     // completion times
int ta[] = new int[n];     // turn around times
int wt[] = new int[n];     // waiting times
int temp;
float avgwt=0,avgta=0;

for(int i = 0; i < n; i++)
{
System.out.println("enter process " + (i+1) + " arrival time: ");
ar[i] = sc.nextInt();
System.out.println("enter process " + (i+1) + " brust time: ");
bt[i] = sc.nextInt();
pid[i] = i+1;
}

//sorting according to arrival times
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;
}
}
}
// finding completion times
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
ct[i] = ct[i-1] + bt[i];
}
ta[i] = ct[i] - ar[i] ;          // turnaround time= completion time- arrival time
wt[i] = ta[i] - bt[i] ;          // waiting time= turnaround time- burst time
avgwt += wt[i] ;                 // total waiting time
avgta += ta[i] ;                // total turnaround time
}
System.out.println("\npid  arrival  brust  complete turn waiting");
for(int  i = 0 ; i< n;  i++)
{
System.out.println(pid[i] + "  \t " + ar[i] + "\t" + bt[i] + "\t" + ct[i] + "\t" + ta[i] + "\t"  + wt[i] ) ;
}
sc.close();
System.out.println("\naverage waiting time: "+ (avgwt/n));     // printing average waiting time.
System.out.println("average turnaround time:"+(avgta/n));    // printing average turnaround time.
}
}
```

Output:

enter no of process:

3

enter process 1 arrival time:

0

enter process 1 brust time:

9

enter process 2 arrival time:

1

enter process 2 brust time:

4

enter process 3 arrival time:

2

enter process 3 brust time:

9

pid arrival brust complete turn waiting

1 0 9 9 9 0

2 1 4 13 12 8

3 2 9 22 20 11

average waiting time: 6.3333335

average turnaround time:13.666667