Practical No.: 05

Aim: Write a program that implements (with no premption) scheduling algorithm.

Source Code:

```
import java.util.*;
public class SJF
{
	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];
		int at[] = new int[n];
		int bt[] = new int[n];
		int ct[] = new int[n];
		int ta[] = new int[n];
		int wt[] = new int[n];
		int f[] = new int[n];
		int st=0, tot=0;
		float avgwt=0, avgta=0;

		for (int i=0;i<n;i++)
		{
			System.out.println ("enter process" + (i+1) +" arrival time:");
			at[i]= sc.nextInt();
			System.out.println("enter process" + (i+1) + " burst time:");
			bt[i] = sc.nextInt();
			pid[i] = i+1;
			f[i]=0;
		}
		boolean a= true;
		while(true)
		{
			int c=n, min=999;
			if (tot == n)
				break;
			for (int i=0; i<n; i++)
			{
				if((at[i] <= st) && (f[i] == 0) && (bt[i]<min))
				{
					min=bt[i];
					c=i;
				}
			}
			if (c==n)
				st++;
			else
```

```
                {
                        ct[c]=st+bt[c];
                        st+=bt[c];
                        ta[c]=ct[c]-at[c];
                        wt[c]=ta[c]-bt[c];
                        f[c]=1;
                        tot++;
                }
        }
        System.out.println("\npid arrival burst complete turn waiting");
        for(int i=0;i<n;i++)
        {
                avgwt+= wt[i];
                avgta+= ta[i];

System.out.println(pid[i]+"\t"+at[i]+"\t"+bt[i]+"\t"+ct[i]+"\t"+ta[i]+"\t"+wt[i]);
        }
        System.out.println("\naverage tat is"+(float) (avgta/n));
        System.out.println("avereage wt is "+ (float) (avgwt/n));
        sc.close();
    }
}
```

Output:

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.15063]
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E:\DiveshA33\POS\Practical 5>javac SJF.java

E:\DiveshA33\POS\Practical 5>java SJF
enter no of process:
3
enter process1 arrival time:
0
enter process1 burst time:
2
enter process2 arrival time:
4
enter process2 burst time:
5
enter process3 arrival time:
3
enter process3 burst time:
6

pid arrival burst complete turn waiting
1       0       2       2       2       0
2       4       5       14      10      5
3       3       6       9       6       0

average tat is6.0
avereage wt is 1.6666666

E:\DiveshA33\POS\Practical 5>
```