

//fcfs with at

```
#include<stdio.h>
```

```
#include<stdlib.h>
```

```
typedef struct{
```

```
    int pid,bt,wt,tt,at; //struct array
```

```
}sp;
```

```
int main(){
```

```
    int n,i,j,towt=0,tott=0,tbm=0;
```

```
    sp *p,t; //dynamic array
```

```
    printf("FCFS scheduling..\n");
```

```
    printf("enter the no. of processes:");
```

```
    scanf("%d",&n);
```

```
    p=(sp *)malloc(n * sizeof(sp)); //dynamic memory allocation for p
```

```
    for(i=0;i<n;i++){
```

```
        p[i].pid=i+1;
```

```
        printf("\nenter the burst time for process id %d:",p[i].pid);
```

```
        scanf("%d",&p[i].bt);
```

```
        printf("\nenter the arrival time for process id %d:",p[i].pid);
```

```
        scanf("%d",&p[i].at);
```

```
    }
```

```
    //sort processes by their arrival time
```

```
    for(i=0;i<n;i++){
```

```
        for(j=i+1;j<n;j++){
```

```
            if(p[i].at>p[j].at){
```

```
                t=p[i];
```

```
                p[i]=p[j];
```

```
                p[j]=t;
```

```
            }
```

```
        }
```

```

    }

    //calculation

    printf("\nprocess scheduling..\n");

    printf("process\tburst\tarrival\twaiting\tturnaround\n");

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

        tbm+=p[i].bt;

        p[i].tt=tbm-p[i].at;

        p[i].wt=tbm-p[i].bt-p[i].at;

        towt+=p[i].wt;

        tott+=p[i].tt;

        printf("%d\t%d\t%d\t%d\t%d\n",p[i].pid,p[i].bt,p[i].at,p[i].wt,p[i].tt);

    }

    printf("avg waiting time:%.2f\n",(float)towt/n);

    printf("avg turnaround time:%.2f\n",(float)tott/n);

    free(p);

    return 0;

}

```

```

C:\Users\HP\OneDrive\Desktop > .\fcfs.exe
FCFS scheduling..
enter the no. of processes:3
enter the burst time for process id 1:5
enter the arrival time for process id 1:2
enter the burst time for process id 2:10
enter the arrival time for process id 2:0
enter the burst time for process id 3:15
enter the arrival time for process id 3:1
process scheduling..
process burst    arrival waiting turnaround
2               10      0      0      10
3               15      1      9      24
1               5       2     23     28
avg waiting time:10.67
avg turnaround time:20.67

-----
Process exited after 25.91 seconds with return value 0
Press any key to continue . . .

```