S.No: 3	Exp. Name: ***Implement CPU Scheduling Algorithms***	Date:

ID: 0201DCS281

Aim:

Write a program to implement the PRIORITY based cpu scheduling algorithm.

Source Code:

os3.c

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
#define max 50
void main(){
   int bTime[max],aTime[max],n,i,j,temp,sTime[max],fTime[max],wTime[max],taTime[max],pr
[max];
   int towTime=0, totaTime=0;
   float awTime,ataTime;
   char pName[max][max],t[max];
   printf("Enter the number of process:");
   scanf("%d",&n);
   for(i=0; i<n; i++){
      printf("Enter process name,arrivaltime,execution time & priority:");
      scanf("%s%d%d%d",pName[i],&aTime[i],&bTime[i],&pr[i]);
   }
   for(i=0; i<n; i++){
      if(i == 0){
         sTime[i] = aTime[i];
         wTime[i] = sTime[i]-aTime[i];
         fTime[i] = sTime[i]+bTime[i];
         taTime[i] = fTime[i]-aTime[i];
      }
      else{
         sTime[i] = fTime[i-1];
         wTime[i] = sTime[i]-aTime[i];
         fTime[i] = sTime[i]+bTime[i];
         taTime[i] = fTime[i]-aTime[i];
      }
      towTime += wTime[i];
      totaTime += taTime[i];
   }
   awTime=(float)towTime/n;
   ataTime=(float)totaTime/n;
   printf("Pname\tarrivaltime\texecutiontime\tpriority\twaitingtime\ttatime\n");
   for(i=0; i<n; i++){
      printf("%s\t%5d\t\t%5d\t\t%5d\t\t%5d\t\t%5d\n",pName[i],aTime[i],bTime[i],pr[i],w
Time[i],taTime[i]);
   }
   printf("Average waiting time is:%f\n",awTime);
   printf("Average turnaroundtime is:%f\n",ataTime);
}
```

Execution Results - All test cases have succeeded!

Test Case - 1

User Output

```
Enter the number of process: 2
Enter process name,arrivaltime,execution time & priority: first 4 6 7
Enter process name,arrivaltime,execution time & priority: second 5 7 8
Pname    arrivaltime     executiontime    priority        waitingtime     tatime
first       4               6               7               0               6
second      5               7               8               5               12
Average waiting time is:2.500000
Average turnaroundtime is:9.000000
```