S.No: 2	Exp. Name: ***Implement CPU Scheduling Algorithms***	Date:

Aim:

Implementation of the Round Robin cpu scheduling algorithm
(https://gecgudlavalleru.codetantra.com/secure/labs-q.jsp?sNo=4&qId=5bec179564bac110545ba035&bd=AY3RFZHVEQg%3D%3D&lid=5db6d168a183970b79e5cd34&labbd=AMzM2X2N0X2No&expTitle=Implementation%20of%20the%20Round%

Source Code:

os4.c

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
#define max 50
void main(){
   int i,n,sum=0,count=0,y,quant,wt=0,tat=0,aTime[max],bTime[max],temp[max],wTime[max],
rem_bTime[max],taTime[max];
   float avg_wt,avg_tat;
   printf("Enter Total Number of Processes: ");
   scanf("%d",&n);
   y=n;
   for(i=0; i<n; i++){
      printf("Enter Details of Process[%d]: Arrival Time:\t",i+1);
      scanf("%d",&aTime[i]);
      printf("Burst Time:\t");
      scanf("%d",&bTime[i]);
      temp[i]=bTime[i];
   }
   printf("Enter Time Quantum:\t");
   scanf("%d",&quant);
   printf("Process ID\t\tBurst Time\t Turnaround Time\t Waiting Time\n");

   for(sum=0, i=0; y!=0;){
      if(temp[i]<= quant && temp[i]>0){
         sum=sum+temp[i];
         temp[i]=0;
         count=1;
      }
      else if(temp[i]>0){
         temp[i]=temp[i]-quant;
         sum=sum+quant;
      }
      if(temp[i] == 0 && count == 1){
         y--;
         printf("Process[%d]\t\t%d\t\t %d\t\t\t %d\n",i+1,bTime[i],sum-aTime[i],sum-aTi
me[i]-bTime[i]);
         wt=wt+sum-aTime[i]-bTime[i];
         tat=tat+sum-aTime[i];
         count=0;
      }
      if(i==n-1){
         i=0;
      }
      else if(aTime[i+1]<=sum){
         i++;
      }
      else{
         i=0;
      }
   }

   avg_wt=(float)wt/n;
   avg_tat=(float)tat/n;
   printf("Average Waiting Time:\t%f\n",avg_wt);
   printf("Avg Turnaround Time:\t%f\n",avg_tat);
}
```

Execution Results - All test cases have succeeded!

Test Case - 1			
User Output			
Enter Total Number of Processes: 3			
Enter Details of Process[1]: Arrival Time: 0			
Burst Time: 3			
Enter Details of Process[2]: Arrival Time: 0			
Burst Time: 2			
Enter Details of Process[3]: Arrival Time: 1			
Burst Time: 3			
Enter Time Quantum: 5			
Process ID	Burst Time	Turnaround Time	Waiting Time
Process[1]	3	3	0

Test Case - 1			
Process[2]	2	5	3
Process[3]	3	7	4
Average Waiting Time:	2.333333		
Avg Turnaround Time:	5.000000		