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**Lab Report Name: Implementation of Round Robin Scheduling algorithm .**

**Lab Report No:10**

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**Theory :** Round robin is the most widely used process scheduling algorithm .The basic strategy for round robin scheduling is that if there are n process,each of the process will receive 1/n CPU Execution Time.Each process is allotted a time quanta, for which its is executed.The incoming processes are kept in a ready list while another one is executing.If the time quanta allotted for a process is over,then that process is moved to ready and the next process in the ready list is executed for the allotted time quanta.

**Advantages:**

1.It can be actually implementable in the system because it is not depending on the burst time.

2.All the jobs get a fare allocation of CPU.

3.It doesn't suffer from the problem of starvation or convoy effect.

**Disadvantage:**

1.This method spends more time on context switching.

2.Its performance heavily depends on yime quantum.

3.Priorities can’t be set for the processes.

Characteristics of Round-Robin Scheduling Here are the important characteristics of Round-Robin Scheduling:

1. Round robin is a pre-emptive algorithm.

2. It is a real time algorithm which responds to the event within a specific time limit.

3. Round robin is a hybrid model which is clock-driven

4. Round robin is one of the oldest, fairest, and easiest algorithm.

5. The CPU is shifted to the next process after fixed interval time, which is called time quantum/time slice.

6. Widely used scheduling method in traditional OS.

**Corresponding Code:**

#include<stdio.h>

int main()

{

int n,i,k,x=0,s=0,r=0,q=0,a[30],e[30],t[30];

float m,p=0;

printf("Enter the number of process: ");

scanf("%d",&n);

printf("Enter the execution time: ");

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

{

scanf("%d",&a[i]);

e[i]=a[i];

}

printf("Enter the quanta: ");

scanf("%d",&q);

printf("After Round Robin sheduling: ");

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

{

if(x<a[i])

{

x=a[i];

}

}

k=x/q;

while(s<=k)

{

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

{

if(a[i]>0)

{

if(a[i]>q)

{

r=r+q;

a[i]=a[i]-q;

printf("P%d\t",i+1);

}else

{

r=r+a[i];

a[i]=a[i]-q;

printf("P%d ",i+1);

t[i]=r;

}

}

}

s++;

}

printf("\n\nProcess BurstTime WaitingTime TurnAroundTime\n");

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

{

printf(" %d \t\t %d\t\t %d\t\t %d\t\t \n",i,e[i],x,t[i]);

x=x+q;

}

m=x/n;

printf("\nAverage waiting time=%f= ",m);

printf("\nAverage turn around time= ");

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

p=p+t[i];

p=p/n;

printf("%f",p);

printf("\n");

return 0;

}

**Output:**

