Mawlana Bhashani Science and Technology University

Lab-Report

Lab Report No: 10

Lab Report Name: Implementation of Round Robin Scheduling Algorithm.

Course code: ICT-3110

Course title: Operating System Lab

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Experiment Name: Implementation of Round Robin Scheduling Algorithm.

Question-01:

What is Round Robin Scheduling algorithm?

Answer:

Rouond Robin is the preemptive process scheduling algorithm. Each process is provided a fix time to execute, it is called a quantum. Once a process is executed for a given time period , it is preempted and other process executes for a given period time period.

Question-02:

How to implemented in C?

Answer:

The code is given bellow:

```c
#include<stdio.h>
int main() {
  int burst [100],waiting [100],turnaround [100],b[100];
  int i,n,time,count=0;
  float total=0,totalTT=0,avgwt,avgtt,totalwt=0;

  printf("Enter total number of process : ");
  scanf("%d",&n);
  for(i=0; i<n; i++)
  {
```

```c
printf("\nEnter the burst time of %d process : ",i+1);

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

b[i] = burst [i];

   }    i=0;

   for(time=0; count!=n; time++)

   {

      while(burst [i] == 0)

      {        i=(i+1)%n;

      }     burst [i]--;      if(burst [i]==0)

      {

         turnaround [i] = time+1;        count++;

      }     i = (i+1)%n;

   }

   printf("\nprocess  burst  waitng  turnaround  ");    for(i=0; i<n; i++)

   {

waiting [i] = turnaround [i] - b[i];

      printf("\n  %d \t   %d \t    %d \t   %d",i+1,b[i],waiting [i],turnaround [i]);

       total = total + waiting [i];

       totalTT = totalTT + turnaround [i];

   }

   printf("\n  %d  %f  %f",n,totalwt,total);

   avgwt = totalwt / n;

   avgtt = totalTT / n;

   printf("\nAverage waiting time is %f",avgwt);
```

```
    printf("\nAverage turnaround time is %f ",avgtt);

    return 0;

}
```

Output:

```
Enter total number of process : 4

Enter the burst time of 1 process : 11

Enter the burst time of 2 process : 12

Enter the burst time of 3 process : 12

Enter the burst time of 4 process : 10

process   burst   waitng   turnaround
   1        11       30            41
   2        12       32            44
   3        12       33            45
   4        10       30            40
  4  0.000000  125.000000
Average waiting time is 0.000000
Average turnaround time is 42.500000
Process returned 0 (0x0)   execution time : 191.844 s
Press any key to continue.
```

Conclusion:

The queue structure in ready queue is of First In First Out (FIFO) type. A fixed time is allotted to every process that arrives in the queue. This fixed time is known as time slice or time quantum. The round robin algorithm is simple and the overhead in decision making is very low. It is the best scheduling algorithm for achieving better and evenly distributed response time.