








(globals)

Project C  ROUNDROBIN.C  diningphilos.c  multithreados.c 

```

1  #include<stdio.h>
2  #include<conio.h>
3  int main()
4  {
5      int i, NOP, sum=0, count=0, y, quant, wt=0, tat=0, at[10], bt[10], temp[10];
6      float avg_wt, avg_tat;
7      printf("Total number of process in the system: ");
8      scanf("%d", &NOP);
9      y = NOP;
10     for(i=0; i<NOP; i++)
11     {
12         printf("Enter the Arrival and Burst time of the Process[%d]\n", i+1);
13         printf("Arrival time is: ");
14         scanf("%d", &at[i]);
15         printf("Burst time is: ");
16         scanf("%d", &bt[i]);
17         temp[i] = bt[i];
18     }
19     printf("Enter the Time Quantum for the process: ");
20     scanf("%d", &quant);
21     printf("Process No \t\tBurst Time \t\tTAT\t\tWaiting Time ");
22     for(sum=0, i = 0; y!=0; )
23     {
24         if(temp[i] <= quant && temp[i] > 0)
25         {
26             sum = sum + temp[i];
27             temp[i] = 0;
28             count++;
29         }
30         else if(temp[i] > 0)
31         {
32             temp[i] = temp[i] - quant;
33             sum = sum + quant;

```

 Compiler
 Resources
 Compile Log
 Debug
 Find Results
 Console
 Close

Abort Compilation

- Output Filename: C:\Users\aswin\Documents\ROUNDROBIN.exe
 - Output Size: 323.7841796875 KiB
 - Compilation Time: 0.17s

☐ Shorten compiler path

C:\Users\aswin\Documents\ROUNDROBIN.exe

```

Total number of process in the system: 4
Enter the Arrival and Burst time of the Process[1]
Arrival time is: 0
Burst time is: 9
Enter the Arrival and Burst time of the Process[2]
Arrival time is: 3
Burst time is: 1
Enter the Arrival and Burst time of the Process[3]
Arrival time is: 7
Burst time is: 21
Enter the Arrival and Burst time of the Process[4]
Arrival time is: 7
Burst time is: 32
Enter the Time Quantum for the process: 6

```

Process No	Burst Time	TAT	Waiting Time
Process No[2]	1	4	3
Process No[1]	9	22	13
Process No[3]	21	42	21
Process No[4]	32	56	24

```

Average Turn Around Time: 15.250000
Average Waiting Time: 31.000000
-----
Process exited after 23.21 seconds with return value 0
Press any key to continue . . .

```

reenaasprgm.c x *program2.c x rkive.c x ipc.c x Untitled Document 2 x

```
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
#include<sys/shm.h>
#include<string.h>
int main()
{
    int i;
    void *shared_memory;
    char buff[100];
    int shmid;
    shmid=shmget((key_t)2345, 1024, 0666|IPC_CREAT);
    printf("Key of shared memory is %d\n",shmid);
    shared_memory=shmat(shmid,NULL,0);
    printf("Process attached at %p\n",shared_memory);
    printf("Enter some data to write to shared memory\n");
    read(0,buff,100);
    strcpy(shared_memory,buff);
    printf("You wrote : %s\n",(char *)shared_memory);
}
```

```
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF: ~/Desktop
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~$ cd Desktop
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~/Desktop$ cc ipc.c
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~/Desktop$ ./a.out
Key of shared memory is 2883597
Process attached at 0x7f2a03434000
Enter some data to write to shared memory
HELLO WORLD
You wrote : HELLO WORLD
guest-VU6MzW@cn28-HP-ProDesk-400-G1-SFF:~/Desktop$
```



Classes Debug

ipc.cpp ×

multithreading.cpp ×

```
1 #include <stdio.h>
2 #include <string.h>
3 #include <pthread.h>
4 int i = 2;
5
6 void* foo(void* p){
7     printf("Value received as argument in starting routine: ");
8     printf("%i\n", * (int*)p);
9     pthread_exit(&i);
10 }
11
12 int main(void){
13     pthread_t id;
14     int j = 1;
15     pthread_create(&id, NULL, foo, &j);
16     int* ptr;
17     pthread_join(id, (void**)&ptr);
18     printf("Value received by parent from child: ");
19     printf("%i\n", *ptr);
20 }
```

A terminal window titled 'C:\Users\DELL\OneDrive\Documents\multithreading.exe' showing the output of the multithreading program. The output displays the value received by the parent from the child (2) and the value received as an argument in the starting routine (1). It also shows the process exit time and a prompt to press any key to continue.

```
C:\Users\DELL\OneDrive\Documents\multithreading.exe
Value received as argument in starting routine: 1
Value received by parent from child: 2
-----
Process exited after 0.06445 seconds with return value 0
Press any key to continue . . .
```

(globals)

Project C ROUNDROBIN.C diningphilos.c

```
1 #include<stdio.h>
2 #include<stdlib.h>
3 #include<pthread.h>
4 #include<semaphore.h>
5 #include<unistd.h>
6 sem_t room;
7 sem_t chopstick[5];
8 void * philosopher(void *);
9 void eat(int);
10 int main()
11 {
12     int i,a[5];
13     pthread_t tid[5];
14     sem_init(&room,0,4);
15     for(i=0;i<5;i++){
16         sem_init(&chopstick[i],0,1);
17     }
18     for(i=0;i<5;i++){
19         a[i]=i;
20         pthread_create(&tid[i],NULL,philosopher,(void *)&a[i]);
21     }
22     for(i=0;i<5;i++){
23         pthread_join(tid[i],NULL);
24     }
25     void * philosopher(void * num)
26     {
27         int phil=*(int *)num;
28         sem_wait(&room);
29         printf("\nPhilosopher %d has entered room",phil);
30         sem_wait(&chopstick[phil]);
31         sem_wait(&chopstick[(phil+1)%5]);
32         eat(phil);
33         sleep(2);
34         printf("\nPhilosopher %d has finished eating",phil);
35         sem_post(&chopstick[(phil+1)%5]);
36         sem_post(&chopstick[phil]);
37         sem_post(&room);
38     }
39     void eat(int phil)
40     {
41         printf("\nPhilosopher %d is eating",phil);
```

C:\Users\aswin\Documents\diningphilos.exe

```
Philosopher 0 has entered room
Philosopher 3 has entered room
Philosopher 2 has entered room
Philosopher 1 has entered room
Philosopher 0 is eating
Philosopher 3 is eating
Philosopher 3 has finished eating
Philosopher 0 has finished eating
Philosopher 2 is eating
Philosopher 4 has entered room
Philosopher 4 is eating
Philosopher 2 has finished eating
Philosopher 4 has finished eating
Philosopher 1 is eating
Philosopher 1 has finished eating
-----
```

```
Process exited after 10.84 seconds with return value 0
Press any key to continue . . .
```

(globals)



Project C < > ROUNDROBIN.C x diningphilos.c x multithreados.c x firstfitos.c x

```

1 #include<stdio.h>
2 void main()
3 {
4     int bsize[10], psize[10], bno, pno, flags[10], allocation[10], i, j;
5     for(i = 0; i < 10; i++)
6     {
7         flags[i] = 0;
8         allocation[i] = -1;
9     }
10    printf("Enter no. of blocks: ");
11    scanf("%d", &bno);
12    printf("Enter size of each block: ");
13    for(i = 0; i < bno; i++)
14        scanf("%d", &bsize[i]);
15    printf("Enter no. of processes: ");
16    scanf("%d", &pno);
17    printf("Enter size of each process: ");
18    for(i = 0; i < pno; i++)
19        scanf("%d", &psize[i]);
20    for(i = 0; i < pno; i++)
21        for(j = 0; j < bno; j++)
22            if(flags[j] == 0 && bsize[j] >= psize[i])
23            {
24                allocation[j] = i;
25                flags[j] = 1;
26                break;
27            }
28    printf("\nBlock no.\tsize\t\tprocess no.\t\tsize");
29    for(i = 0; i < bno; i++)
30    {
31        printf("\n%d\t\t%d\t\t\t", i+1, bsize[i]);
32        if(flags[i] == 1)
33            printf("\t\t\t\t\t", allocation[i]+1, psize[allocation[i]]);
34        else
35            printf("Not allocated");
36    }
37 }

```

C:\Users\aswin\Documents\firstfitos.exe

```

Enter no. of blocks: 3
Enter size of each block: 6
10
13
Enter no. of processes: 4
Enter size of each process: 6
3
2
9

```

Block no.	size	process no.	size
1	6	1	6
2	10	2	3
3	13	3	2

```

-----
Process exited after 17.35 seconds with return value 3
Press any key to continue . . .

```