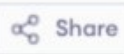**main.c**

Share | Run

Output

```c
1  #include<stdio.h>
2  #include<unistd.h>
3  int main()
4  {
5  printf("Process ID: %d\n", getpid() );
6  printf("Parent Process ID: %d\n", getpid() );
7  return 0;
8  }
```

```
Process ID: 6357
Parent Process ID: 6357


=== Code Execution Successful ===
```

main.c

Share Run

Output

```c
1  #include <stdio.h>
2  #include <stdlib.h>
3  int main()
4  {
5  FILE *fptr1, *fptr2; char
6  filename[100], c;
7  printf("Enter the filename to open for reading \n");
8  scanf("%s", filename);
9  fptr1 = fopen(filename, "r");if
10  (fptr1 == NULL)
11  {
12  printf("Cannot open file %s \n", filename);
13  exit(0);
14  }
15  printf("Enter the filename to open for writing \n");
16  scanf("%s", filename);
17  fptr2 = fopen(filename, "w");if
18  (fptr2 == NULL)
19  {
20  printf("Cannot open file %s \n", filename);
21  exit(0);
22  }
```

```
Enter the filename to open for reading
mythili
Cannot open file mythili


=== Code Execution Successful ===
```

```c
#include <stdio.h>
int main()
{
    int A[100][4];
    int i, j, n, total = 0, index, temp;
    float avg_wt, avg_tat;
    printf("Enter number of process: ");
    scanf("%d", &n);
    printf("Enter Burst Time:\n");
    for (i= 0; i < n; i++)
    {
        printf("P%d: ", i + 1);
        scanf("%d", &A[i][1]);
        A[i][0] = i + 1;
    }
    for (i = 0; i < n; i++)
    {
        index = i;
        for (j = i + 1; j < n; j++)
            if (A[j][1] < A[index][1])
                index = j;
        temp = A[i][1]; A[i][1] =A[index][1];A[index][1]= temp;
        temp = A[i][0]; A[i][0] =A[index][0];A[index][0]= temp;
    }
    A[0][2] = 0;
    for (i = 1; i < n; i++)
```

Output:

```
Enter number of process: 3
Enter Burst Time:
P1: 2
P2: 46
P3: 8
P BT WT TAT
P1 2 0 2
P2 4 2 6
P3 8 6 14
Average Waiting Time= 2.666667
AverageTurnaround Time= 7.333333

=== Code Execution Successful ===
```

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main.c · · · Share Run | Output | Clear

```c
18          twt += p[i].wt, ttat += p[i].tat;
19      }
20      printf("\nAvg WT: %.2f\nAvg TAT: %.2f\n", twt / n, ttat / n);
21  }
22
23 ▾ int main() {
24      int n;
25      printf("Enter no. of processes: ");
26      scanf("%d", &n);
27      Process p[n];
28
29 ▾   for (int i = 0; i < n; i++) {
30          p[i].id = i + 1;
31          printf("P%d BT: ", i + 1);
32          scanf("%d", &p[i].bt);
33      }
34
35      sjf(p, n);
36      return 0;
37  }
38
39
```

Output:
```
Enter no. of processes: 2
P1 BT: 6
P2 BT: 4

P   BT  WT  TAT
P2  4   0   4
P1  6   4   10

Avg WT: 2.00
Avg TAT: 7.00


=== Code Execution Successful ===
```

Programiz
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main.c · Share · Run

```c
#include <stdio.h>
typedef struct {
    int pid;
    int burst_time;
    int remaining_time;
    int turnaround_time;
    int waiting_time;
} Process;

void RoundRobin(Process processes[], int n, int quantum) {
    int time = 0, completed = 0;
    for (int i = 0; i < n; i++) {
        processes[i].remaining_time = processes[i].burst_time;
    }
    // Round Robin Scheduling
    while (completed < n) {
        for (int i = 0; i < n; i++) {
            if (processes[i].remaining_time > 0) {
                if (processes[i].remaining_time > quantum) {
                    time += quantum;
                    processes[i].remaining_time -= quantum;
                } else {
                    time += processes[i].remaining_time;
                    processes[i].waiting_time = time - processes[i]
                        .burst_time;
```

Output

```
Enter number of processes: 3
Enter burst time for each process:
Process 1: 1
Process 2: 2
Process 3: 3
Enter time quantum: 3
Process Burst Time  Waiting Time    Turnaround Time
1       1           0               1
2       2           1               3
3       3           3               6

Average Waiting Time: 1.33
Average Turnaround Time: 3.33


=== Code Execution Successful ===
```

```c
10      p[0].wt = 0;
11      for (int i = 1; i < n; i++) p[i].wt = p[i - 1].wt + p[i - 1].bt;
12      for (int i = 0; i < n; i++) p[i].tat = p[i].wt + p[i].bt;
13
14      printf("\nP\tBT\tWT\tTAT\n");
15      for (int i = 0; i < n; i++)
16          printf("P%d\t%d\t%d\t%d\n", p[i].id, p[i].bt, p[i].wt, p[i]
                .tat);
17  }
18
19 - int main() {
20      int n;
21      printf("Enter no. of processes: ");
22      scanf("%d", &n);
23      P p[n];
24
25      for (int i = 0; i < n; i++) p[i].id = i + 1, printf("P%d BT: ",
            i + 1), scanf("%d", &p[i].bt);
26
27      sjf(p, n);
28  }
29
```

Output

```
Enter no. of processes: 3
P1 BT: 4
5P2 BT: 5
P3 BT: 6


P   BT  WT  TAT
P1  4   0   4
P2  5   4   9
P3  6   9   15


=== Code Execution Successful ===
```

main.c

```c
#include <stdio.h>
#include <sys/ipc.h>
#include <sys/msg.h>
#include <string.h>

struct msg_buffer {
    long msg_type;
    char msg_text[100];
};

int main() {
    key_t key = ftok("progfile", 65);  // Generate unique key
    int msgid = msgget(key, 0666 | IPC_CREAT);  // Create message
        queue

    struct msg_buffer message;
    message.msg_type = 1;

    printf("Enter message: ");
    fgets(message.msg_text, sizeof(message.msg_text), stdin);
    msgsnd(msgid, &message, sizeof(message.msg_text), 0);  // Send
        message
```

Output

```
Enter message: message
Message sent: message


=== Code Execution Successful ===
```

```c
1  #include <stdio.h>
2  #include <stdlib.h>
3  #define MAX_PROCESSES 5
4  typedef struct {
5      int id, priority;
6  } Process;
7  Process queue[MAX_PROCESSES];
8  int count = 0;
9  void addProcess(int id, int priority) {
10     if (count < MAX_PROCESSES) {
11         queue[count++] = (Process){id, priority};
12     } else {
13         printf("Queue full!\n");
14     }
15 }
16 Process getHighestPriority() {
17     Process highest = {0, -1};
18     for (int i = 0; i < count; i++) {
19         if (queue[i].priority > highest.priority) {
20             highest = queue[i];
21         }
22     }
23     return highest;
24 }
25 void removeProcess(int id) {
26     for (int i = 0; i < count; i++) {
27         if (queue[i].id == id) {
28             queue[i] = queue[--count];
```

Output:

```
1. Add Process
2. Execute Highest Priority
3. Exit
Choice: 2
No processes.

1. Add Process
2. Execute Highest Priority
3. Exit
Choice: 3


=== Code Execution Successful ===
```

main.c   [ ] (o< Share   **Run**

```c
1  #include <stdio.h>
2  #include <stdlib.h>
3  #define MAX_PROCESSES 10
4  typedef struct {
5      int id;
6      int burstTime;
7      int remainingTime;
8  } Process;
9  void roundRobinScheduling(Process processes[], int n, int timeQuantum) {
10     int time = 0;
11     int completed = 0;
12     while (completed < n) {
13         for (int i = 0; i < n; i++) {
14             if (processes[i].remainingTime > 0) {
15                 if (processes[i].remainingTime > timeQuantum) {
16                     time += timeQuantum;
17                     processes[i].remainingTime -= timeQuantum;
18                 } else {
19                     time += processes[i].remainingTime;
20                     printf("Process %d completed at time %d\n", processes[i]
                            .id, time);
21                     processes[i].remainingTime = 0;
22                     completed++;
23                 }
24             }
25         }
26     }
27 }
28 int main() {
29     Process processes[MAX_PROCESSES];
```

Output   Clear

```
Enter the number of processes (max 10): 3
Enter Process ID and Burst Time for Process 1: 1 10
Enter Process ID and Burst Time for Process 2: 2 5
Enter Process ID and Burst Time for Process 3: 3 8
Enter Time Quantum: 3
Process 2 completed at time 14
Process 3 completed at time 22
Process 1 completed at time 23


=== Code Execution Successful ===
```

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main.c   Share   Run

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <unistd.h>

#define SHM_SIZE 1024
int main() {
    int shmid;
    char *shared_memory;
    key_t key = ftok("shmfile", 65);
    shmid = shmget(key, SHM_SIZE, 0666 | IPC_CREAT);
    if (shmid == -1) {
        perror("shmget failed");
        exit(1);
    }
    shared_memory = (char *)shmat(shmid, NULL, 0);
    if (shared_memory == (char *)(-1)) {
        perror("shmat failed");
        exit(1);
    }
    pid_t pid = fork();
    if (pid < 0) {
        perror("Fork failed");
        exit(1);
    }
    if (pid == 0) {
        sleep(1);
        printf("Child Process: Reading from shared memory...\n");
```

Output   Clear

```
Enter a message for the child process: Child Process: Reading from shared memory...
Data read from shared memory:
angry bird
Parent Process: Message written to shared memory.
Parent Process: Shared memory segment deleted.


=== Code Execution Successful ===
```