

## 1. About the Executable File

Due to the mail system restriction, the executable file is currently named as "project1.txt" and needed to be renamed as "project1.exe".

## 2. About the Input File

The input file must be named as "process.txt" with certain format. The first line should be 2 numbers split by a tab. The first number indicates the number of processes contained in the file and the second number indicates the time quantum.

From the second line, each line represents a single process and should be 5 parts split by tabs. The first part is an integer indicating the process's ID. The second part is a string indicating the process's name. The third part is an integer within the range of 0 to 4 indicating the process's priority, the smaller the higher. The fourth part is an integer indicating the process's start time which means when the process is ready for the first time. The fifth part is an integer indicating the process's burst time.

10	25			
1	A	4	50	374
2	B	3	103	468
3	C	2	136	682
4	D	1	171	138
5	E	0	202	267
6	F	1	248	913
7	G	2	309	735
8	H	3	396	519
9	I	4	714	846
10	J	0	528	73

**Sample Input File**

## 3. About the Context Switch

In this simulation program, new processes are to be entered by the input file and all processes are to be terminated based on the burst time in the input file. The blocked mechanism is implemented by a random function. There are a 20% chance a running process to be blocked and a 10% chance a blocked process to be unblocked.

## 4. About the Output

The complete system status, including ready queues, blocked list and the running process, will be output after every context switch in the output file "output.txt".

Process A(ID: 1) is added into the Ready Queue.

The Running Process:

The Ready Queues:

Priority 0:	Name	ID
Priority 1:	Name	ID
Priority 2:	Name	ID
Priority 3:	Name	ID
Priority 4:	Name	ID
	A	1

The Blocked List:       Name    ID

Process A(ID: 1) is running.

The Running Process: A(ID: 1)

The Ready Queues:

Priority 0:	Name	ID
Priority 1:	Name	ID
Priority 2:	Name	ID
Priority 3:	Name	ID
Priority 4:	Name	ID

The Blocked List:       Name    ID

Process A(ID: 1) is blocked.

The Running Process:

The Ready Queues:

Priority 0:	Name	ID
Priority 1:	Name	ID
Priority 2:	Name	ID
Priority 3:	Name	ID
Priority 4:	Name	ID

The Blocked List:       Name    ID  
                          A       1

### Sample Output File