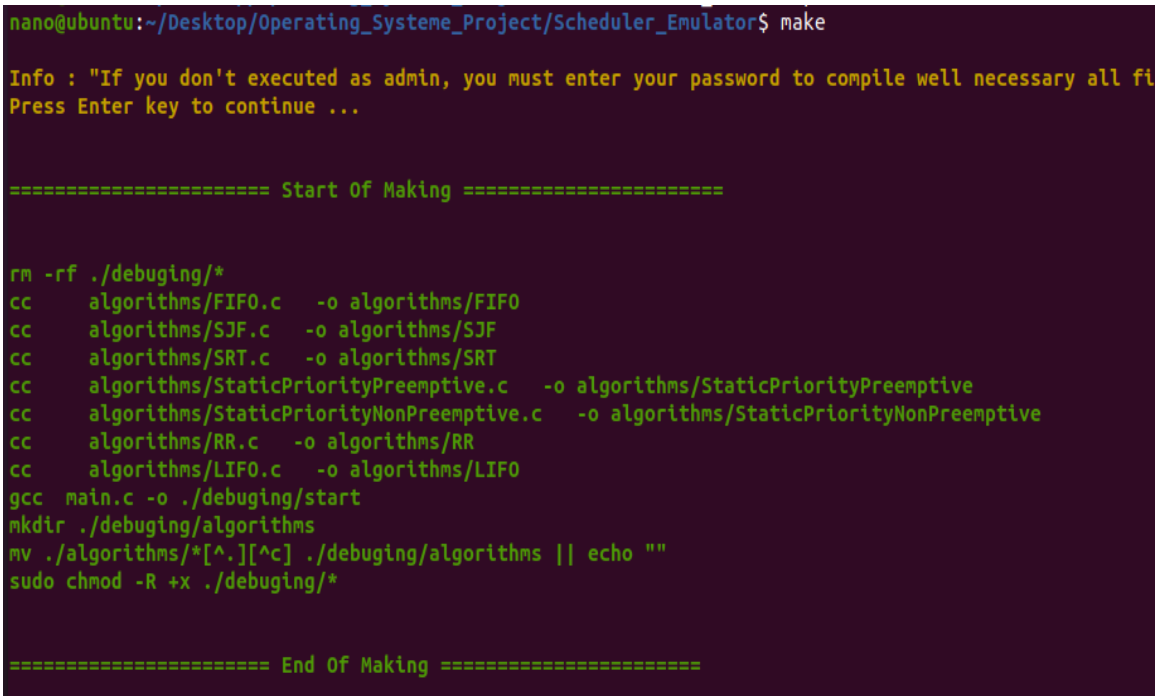
Guide

PROCESS MANAGER

Nassim Ben Nsib et Doniez Touil | 1 ING 2

Installation guide:

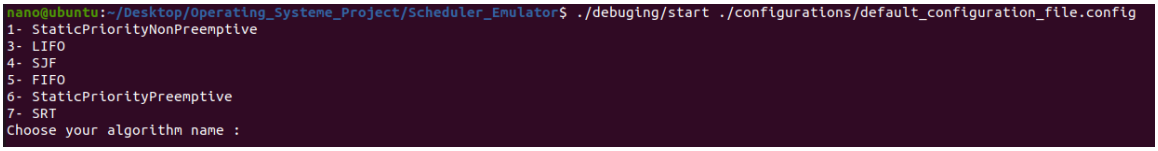
1. First : Type the following command to run to install the **make** package.
    - **Command** : sudo apt-get install make
2. Second: Type the following command to run to dynamically compile all the necessary files.
    - **Command** : make



Makefile will execute a command asking for the right to change the state of the files to properly compile the final program.

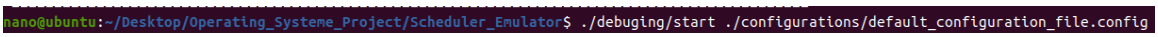
User Manuel:

1. To run correctly the project you must pass the configuration file when running the “start” file which will launch the program.
    - **Command** : ./debuging/start ./configurations/default_configuration_file.config



Then the program will display all the available algorithms.

2. Write the name of the algorithm you want to run and type enter.
    - **Example** : For example, I will choose SRT.

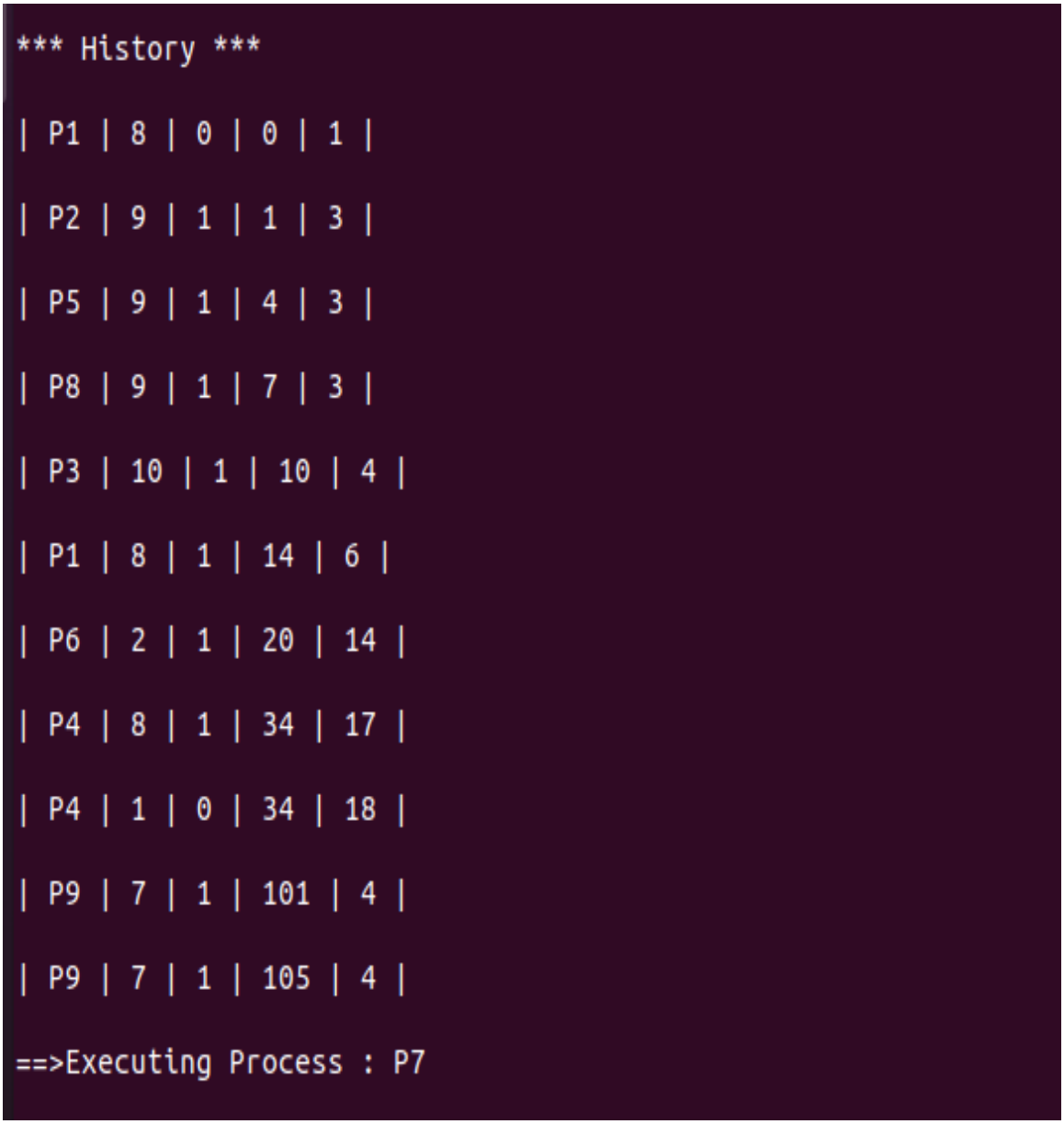


After choosing the algorithm, the program will pass the configuration file and the executable file, which contains the execution logic.

Each executable file of an algorithm simulates the scheduling of processes in real time, from which the lists will be displayed at each iteration and at each moment; list of processes that have not yet arrived, list of processes that are not already in the queue, list of processes that have already finished their executions, list of processes just to keep the order displayed in the configuration file, and in end the list of process execution histories.

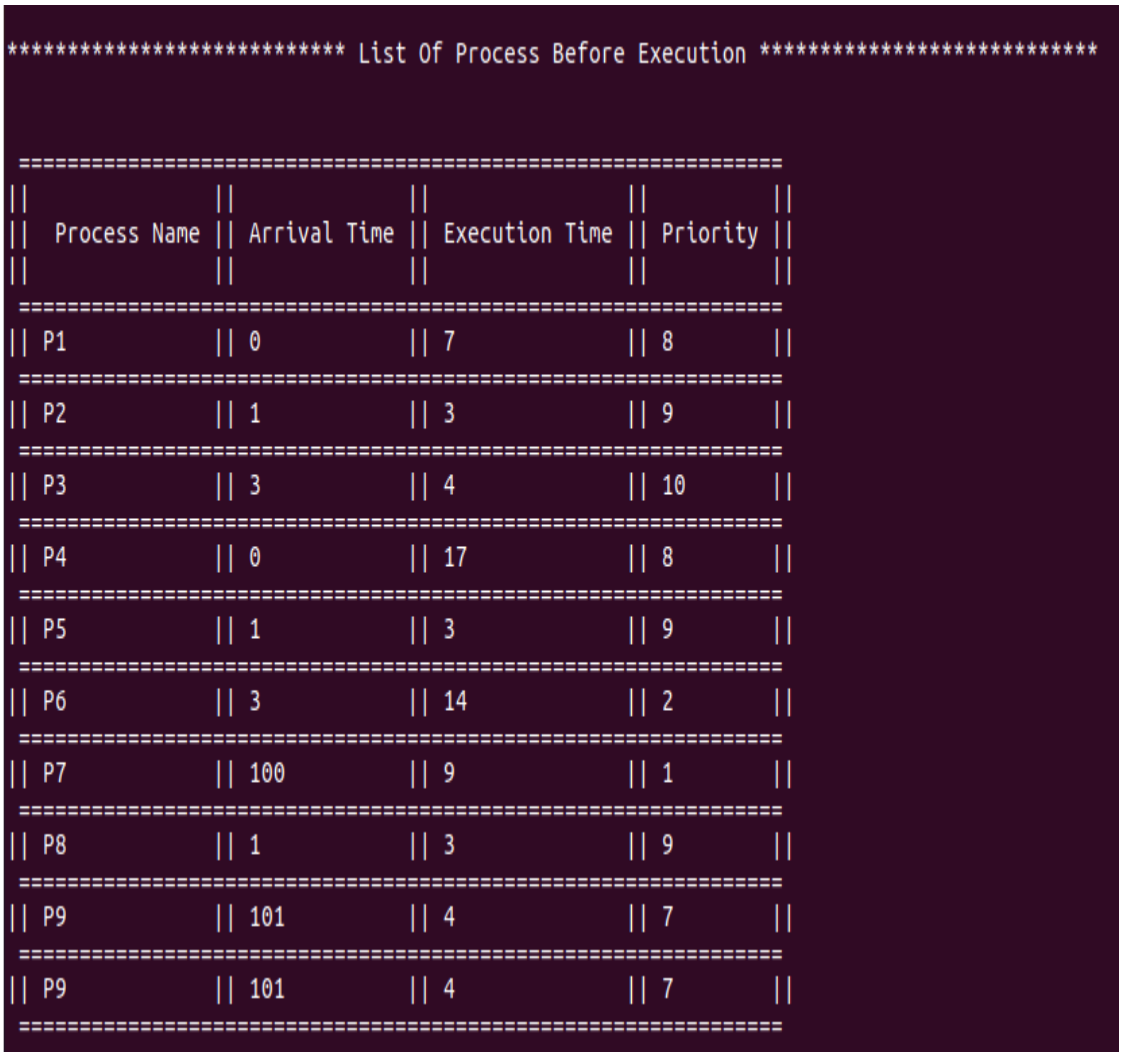
This part contains the updates of the lists over time to see the sequence of execution of the processes.

```
================== Iteration 68 ======================
==>Current Time : 116

*** Incoming Process ***

*** Waiting ***
| P7 | 100 | 9 | 1 |

*** Funished ***
| P2 | 1 | 3 | 9 |
| P5 | 1 | 3 | 9 |
| P8 | 1 | 3 | 9 |
| P3 | 3 | 4 | 10 |
| P1 | 0 | 7 | 8 |
| P6 | 3 | 14 | 2 |
| P4 | 0 | 17 | 8 |
| P9 | 101 | 4 | 7 |
| P9 | 101 | 4 | 7 |

*** History ***
| P1 | 8 | 0 | 0 | 1 |
| P2 | 9 | 1 | 1 | 3 |
| P5 | 9 | 1 | 4 | 3 |
| P8 | 9 | 1 | 7 | 3 |
| P3 | 10 | 1 | 10 | 4 |
```



After simulation of real-time process execution. The program will display tables containing the final results of process execution;

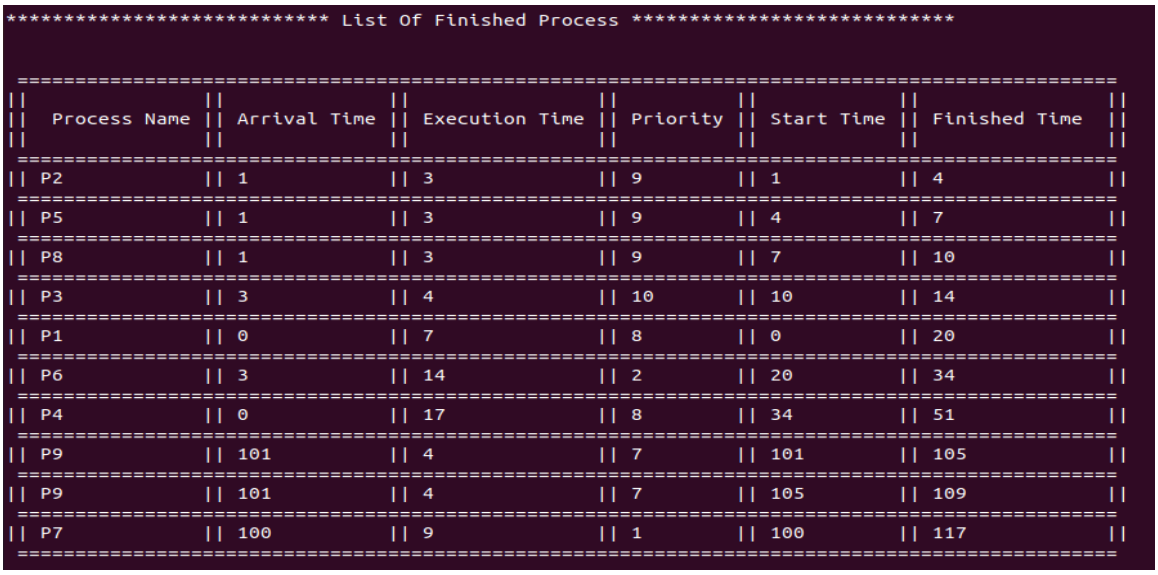
First table that contains the processes with the data and commands specified and displayed in the configuration file (Before execution of algorithm).



********** List Of Process Before Execution **********

Process Name	Arrival Time	Execution Time	Priority
P1	0	7	8
P2	1	3	9
P3	3	4	10
P4	0	17	8
P5	1	3	9
P6	3	14	2
P7	100	9	1
P8	1	3	9
P9	101	4	7
P9	101	4	7

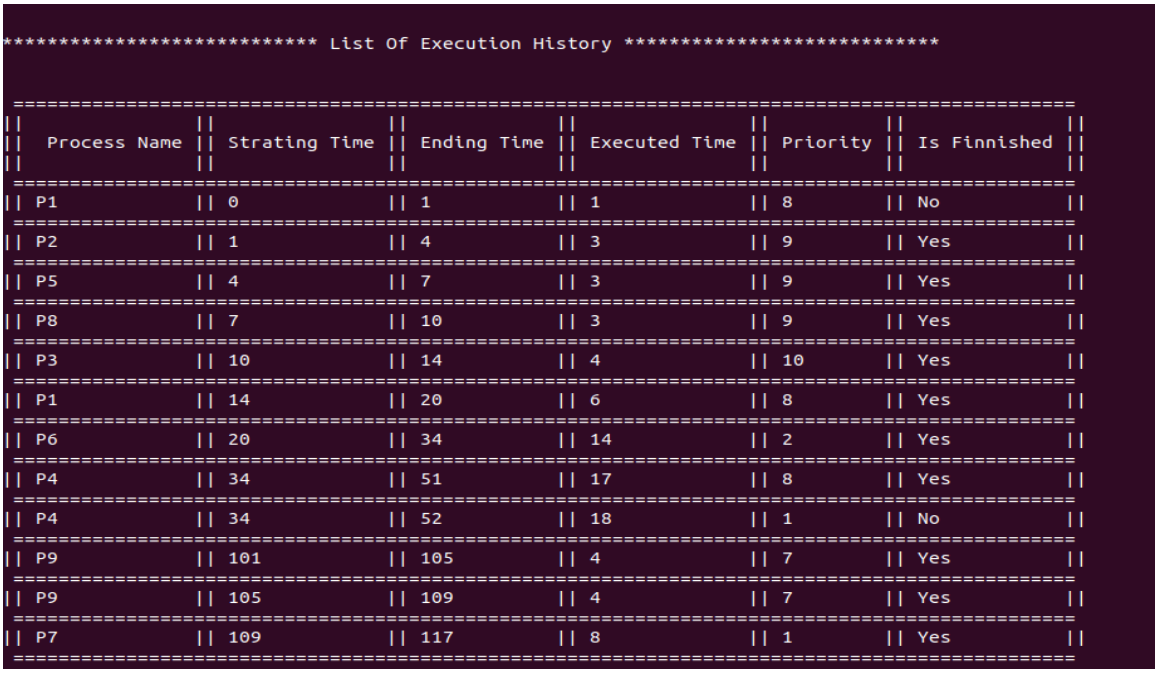
Second table contains the processes after the execution of the chosen algorithm. The processes are sorted ascending according to the moment of their completion



********** List Of Finished Process **********

Process Name	Arrival Time	Execution Time	Priority	Start Time	Finished Time
P2	1	3	9	1	4
P5	1	3	9	4	7
P8	1	3	9	7	10
P3	3	4	10	10	14
P1	0	7	8	0	20
P6	3	14	2	20	34
P4	0	17	8	34	51
P9	101	4	7	101	105
P9	101	4	7	105	109
P7	100	9	1	100	117

The last table contains the execution history of the preemptible algorithms. Each row contains the details of the execution of a part of the process.



********** List Of Execution History **********

Process Name	Strating Time	Ending Time	Executed Time	Priority	Is Finnished
P1	0	1	1	8	No
P2	1	4	3	9	Yes
P5	4	7	3	9	Yes
P8	7	10	3	9	Yes
P3	10	14	4	10	Yes
P1	14	20	6	8	Yes
P6	20	34	14	2	Yes
P4	34	51	17	8	Yes
P4	34	52	18	1	No
P9	101	105	4	7	Yes
P9	105	109	4	7	Yes
P7	109	117	8	1	Yes

Guide for modifying program data:

How to add other algorithms ?configuration file

- In order to add algorithms you must go to the algorithms folder and put your file which continues the logic of the algorithm.

How to modify or create a configuration file ?

- The default configuration file which is located in the "configurations" folder which is in the configurations folder contains a guide to do so

```
#########################################################################
#########################################################################
######################### Add The Quantum ? #############################
#                                                                       #
# Add "Quantum"=value                                                   #
#                                                                       #
######################### Add The Algorithm ? ###########################
#                                                                       #
# Add "Algorithm_Name="name                                             #
#                                                                       #
########################### Add A Comment ? #############################
#                                                                       #
# Add "//" or # after the comment.                                      #
#                                                                       #
################### Add A Process Configuration ? #######################
#                                                                       #
# Add "| process name | arival time | execution time  | priority |"    #
#                                                                       #
#########################################################################
#########################################################################
```