UNIVERSITY OF THE PHILIPPINES VISAYAS
COLLEGE OF ARTS AND SCIENCES
DIVISION OF PHYSICAL SCIENCES AND MATHEMATICS

CMSC 125 Operating Systems
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LABORATORY GUIDE 2

ACADEMIC INTEGRITY

As a student of the University of the Philippines, I pledge to act ethically and uphold the value of honor and excellence. I understand that suspected misconduct on given assignments/examinations will be reported to the appropriate office and if established, will result in disciplinary action in accordance with University rules, policies and procedures. I may work with others only to the extent allowed by the Instructor.

Lab 2: SCHEDULING ALGORITHMS

Programming Instructions:

1. Write a program that will perform the following scheduling algorithms:
   a) FCFS
   b) SJF
   c) Priority
   d) Round Robin.
2. The user will decide what the program should do (Figure 1.1). The program should run indefinitely until the user decides to terminate it.

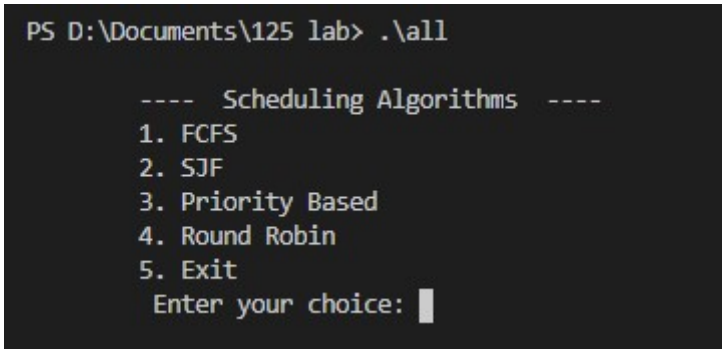

Figure 1.1. Sample program menu.

3. The algorithm should be able to accept any number of processes.
4. The program should require the user to provide the necessary information (e.g. arrival time, burst time) needed for calculation.
5. Additionally, the program should have means (e.g. Gantt chart) to show the order of processes in the queue.
6. Ultimately, the program's goal is to output the **average waiting time** and **average turnaround time**.

All of this is shown in Figures 1.2a and 1.2b.

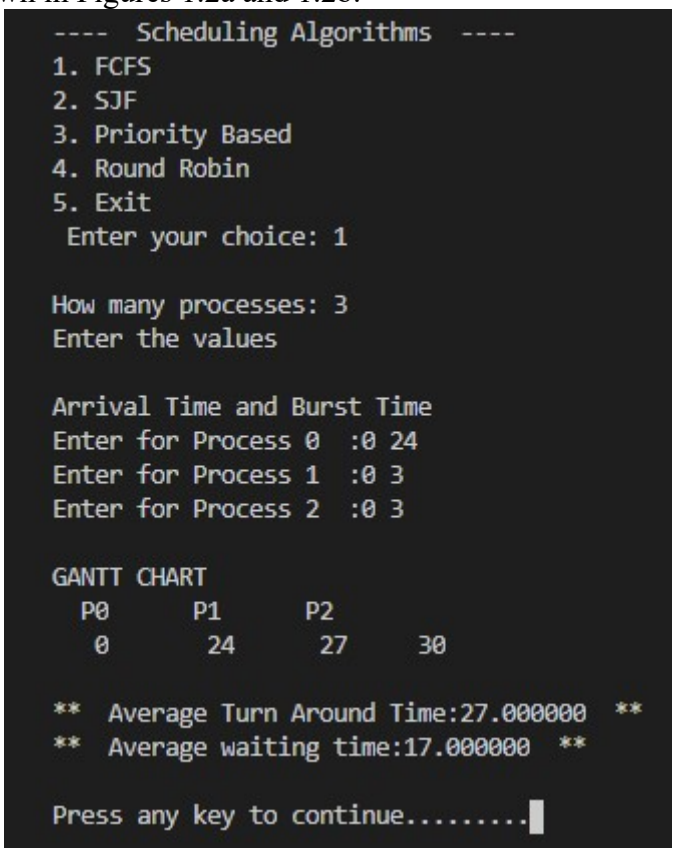

Figure 1.2a. FCFS – sample program execution.

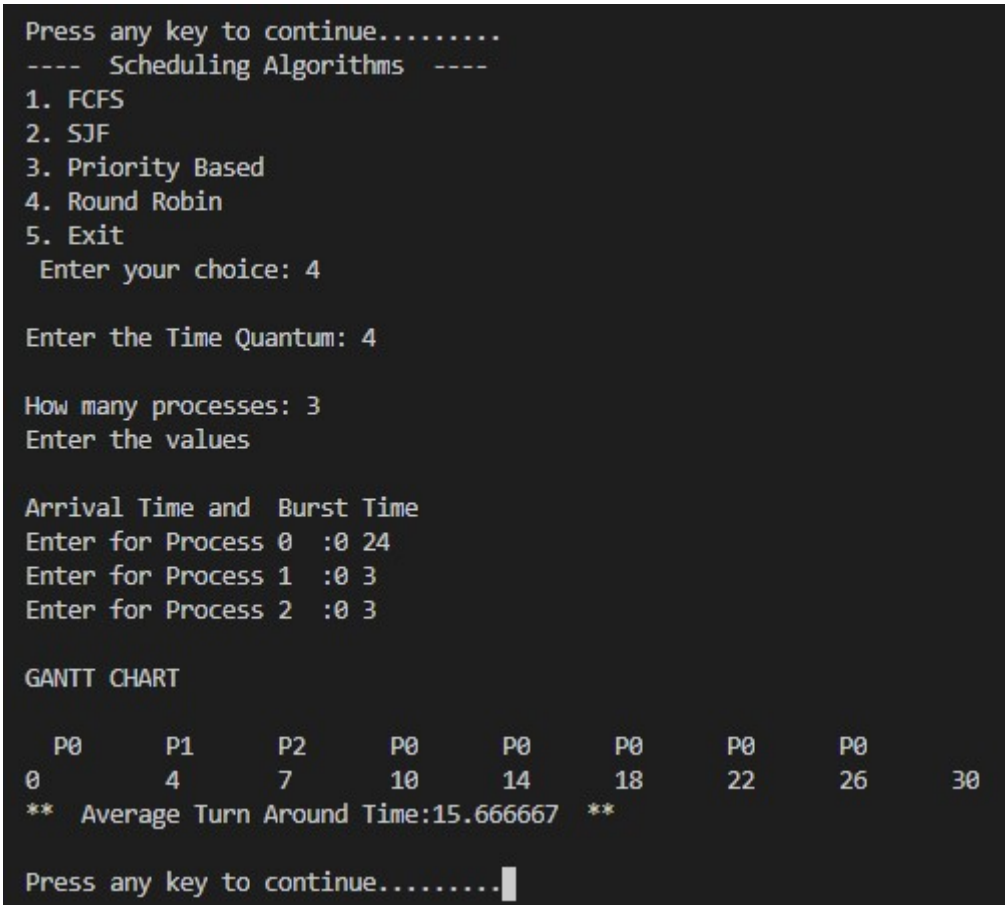

Figure 1.2b. Round Robin – sample program execution.

The example provided is just a rough idea of what your program should be.

For specific algorithms, it is up to the programmer to implement whether it should be preemptive or non-preemptive. It can be either, it can be both. Bonus points if the programmer can implement both.