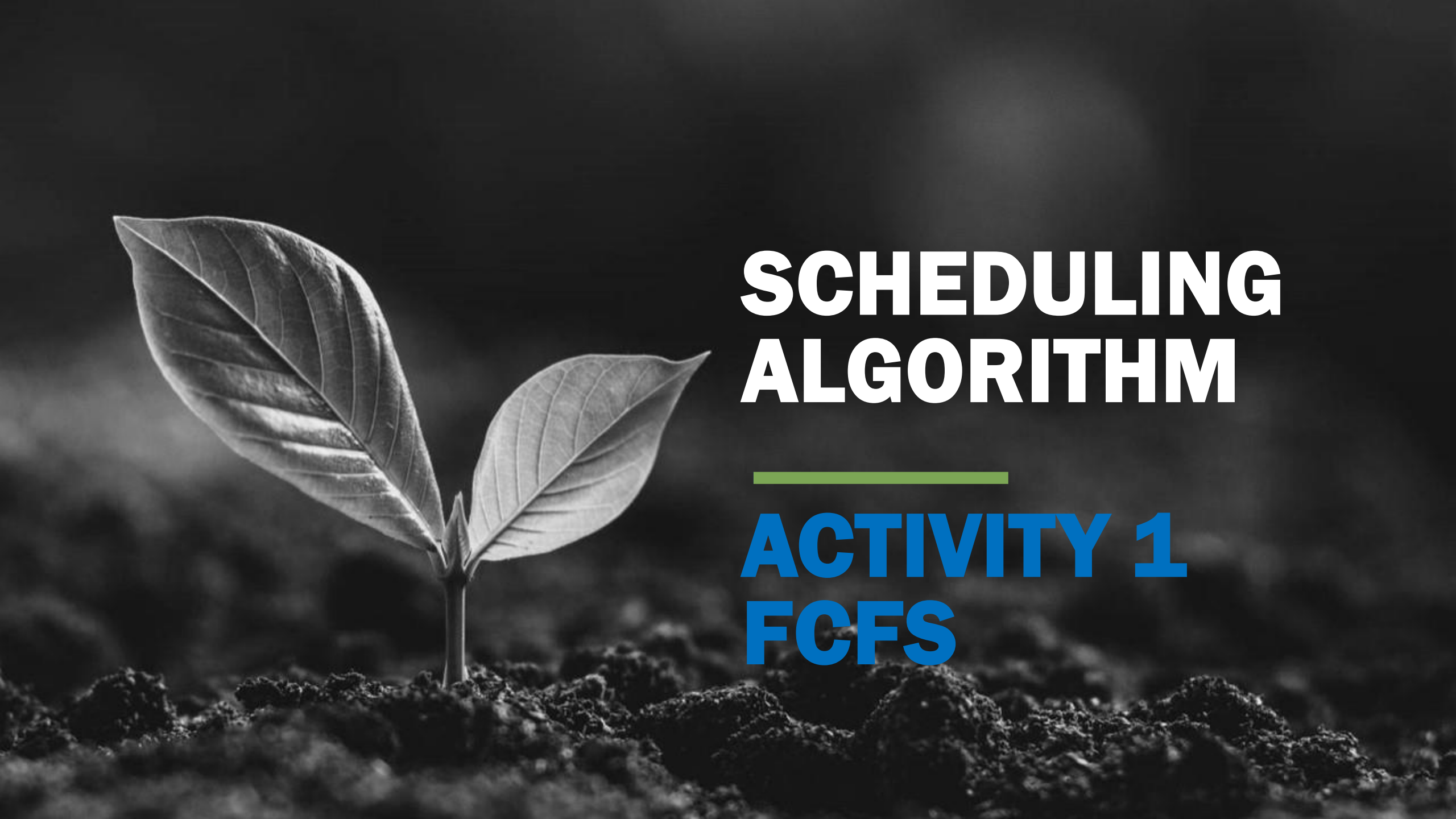
SCHEDULING ALGORITHM

FIRST COME FIRST SERVE



SCHEDULING ALGORITHM

ACTIVITY 1
FCFS

FCFS ALGORITHM

- **FCFS (First Come, First Served)** Scheduling is a non-preemptive CPU scheduling algorithm where the process that arrives first in the ready queue is executed first by the CPU.

- **Characteristics:**

- Non-preemptive: Once a process starts, it runs to completion.
- Based on arrival time: The process with the earliest arrival time gets the CPU first.
- Simple and fair, but can lead to long waiting times for shorter processes.

FCFS ALGORITHM

Consider the set of 5 processes whose arrival time and burst time are given below:

Process	Arrival Time (AT)	Burst Time (BT)
P1	0	4
P2	1	3
P3	2	1
P4	3	2
P5	5	4

FCFS ALGORITHM

Sorting the processes by Arrival Time. Since the CPU executes the processes in the order of arrival time.

Order: **P1 → P2 → P3 → P4 → P5**

Computation: Completion Time (CT)
Completion Time (CT)= BT + ST

FCFS ALGORITHM

Compute for the Completion time of the given table below.

Process	Arrival Time	Burst Time	Start Time	Completion Time
P1	0	4	0	?
P2	1	3	4	?
P3	2	1	7	?
P4	3	2	8	?
P5	5	4	10	?

ACTIVITY 1

FCFS

ACTIVITY 1: FCFS ALGORITHM

INSTRUCTIONS

1. Make a Java program that will compute for the following.
   a. Turn Around Time = Completion Time – Arrival Time.
   b. Waiting Time = Turn Around Time – Burst Time
   c. Average Turn Around Time.
   d. Average Waiting Time.
   e. Gannt Chart.
2. The user will have the choice to input 3 to 5 process, including Arrival Time and Burst time.
3. The program will ask the user if he/she wants to try again?
4. Upload the java file using the filename format: SNFN2.java
5. Upload a sample output of the program.
6. Java file and sample output will be uploaded at teams.

Criteria: 50 points

1. Complete and running program no errors. **50 points**.
2. Incomplete but running program no errors. **35 points**.
3. Running but no correct output **15 points**. (for the effort)
4. 2nd checking must be complete and working no errors **20 points**.
5. Programs to be checked should be error free. No checking of program if error persists.
6. Once I checked the program it is recorded. If you request for 2nd checking you be in the last priority.

PROGRAM OUTPUT

ACTIVITY 1: FCFS ALGORITHM

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Title: FCFS SCHEDULING ALGORITHM

Enter no. of process: (IN)

Process	AT	BT	CT	TAT	WT
P1	(IN)	(IN)	(O)	(O)	(O)
P2	(IN)	(IN)	(O)	(O)	(O)
P3	(IN)	(IN)	(O)	(O)	(O)
P4	(IN)	(IN)	(O)	(O)	(O)
P5	(IN)	(IN)	(O)	(O)	(O)

Average TAT: (O)
Average WT: (O)

Gannt Chart: | P1 | P2 | P3 | P4 | P5 |
(Example) 0 4 7 8 10 14

EOA

SAMPLE OUTPUT FOR CHECKING PURPOSE ONLY

Activity 1: First Come, First Serve Algorithm

Process	AT	BT	CT	TAT	WT
P1	0	4	4	4	0
P2	1	3	7	6	3
P3	2	1	8	6	5
P4	3	2	10	7	5
P5	5	4	14	9	5

AVERAGE TAT = 6.4
AVERAGE WT = 3.6

Gannt Chart: | P1 | P2 | P3 | P4 | P5 |
(Example) 0 4 7 8 10 14