Ain Shams University

Faculty of Engineering

Computer and Systems Department

CPU Scheduler Project

Names: **Bench No:**

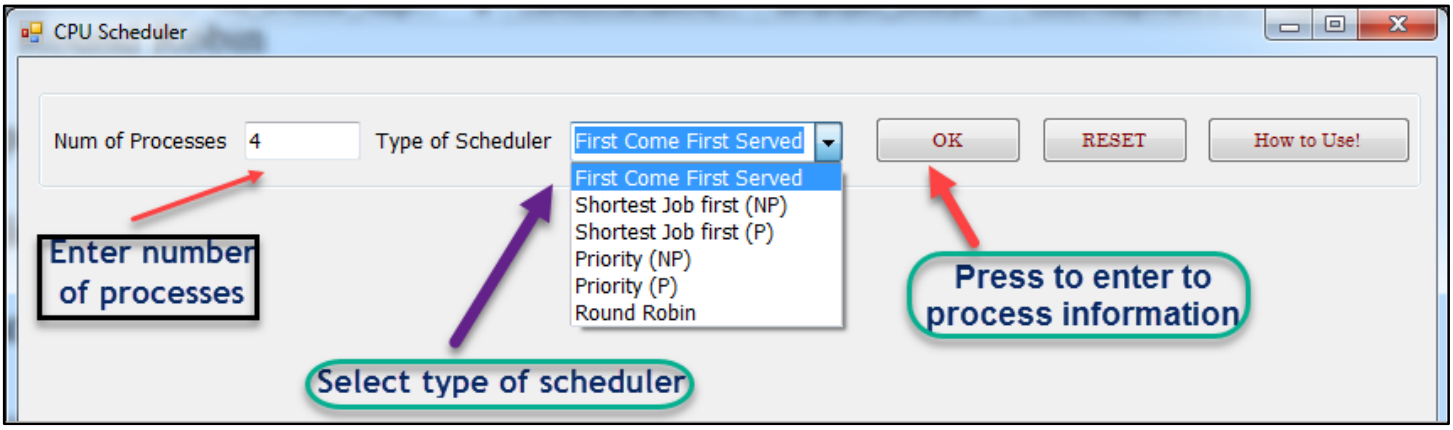
- **Diaa Ahmed Abdelzaher** **33805**
- **Abdallah Reda Abdallah** **33816**

Section: **2**

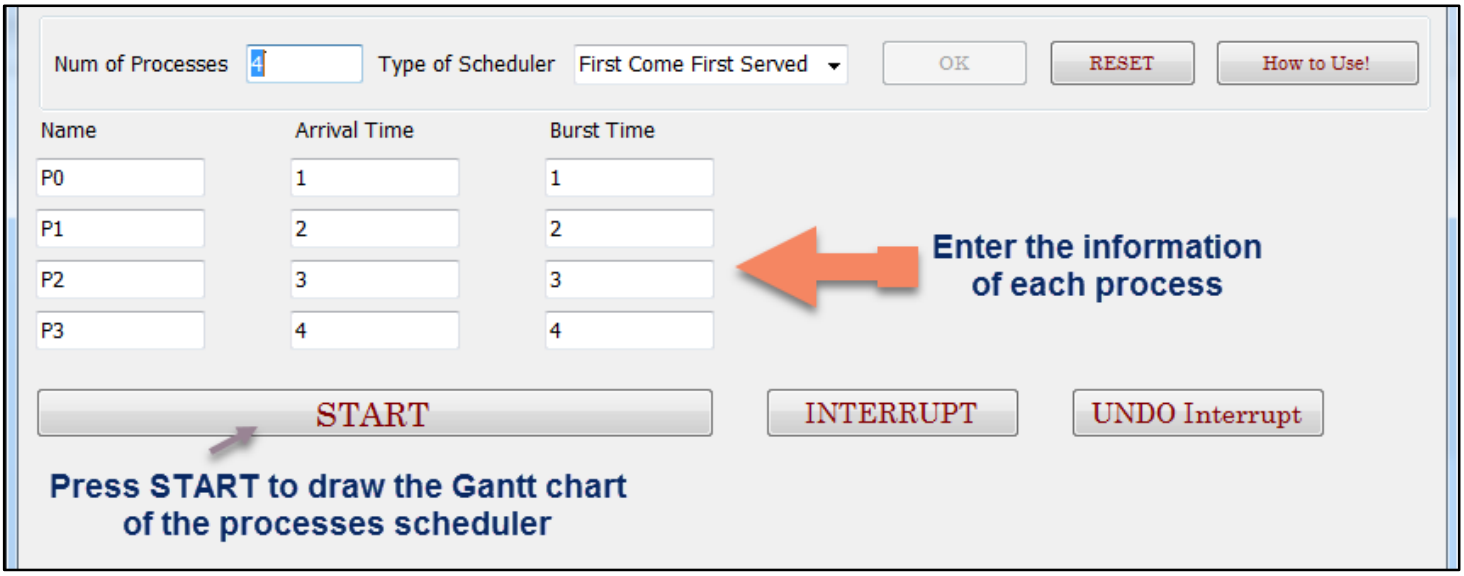
Contents:

• User Manual

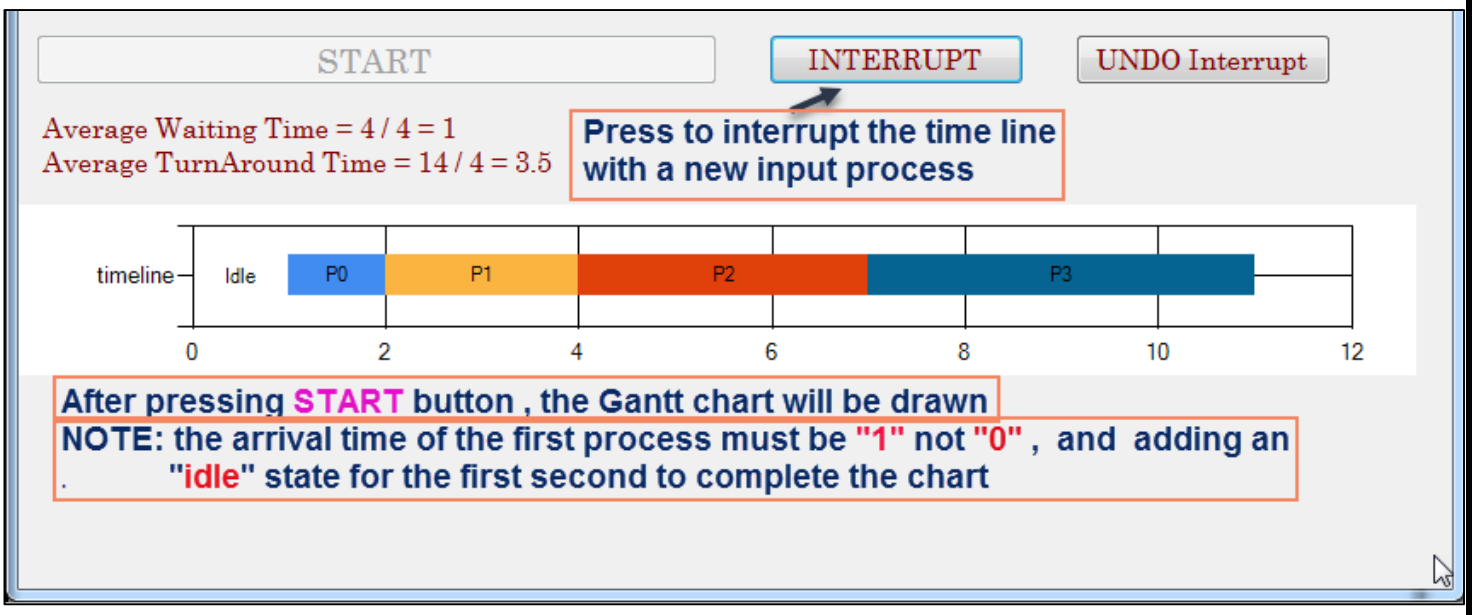
- **Enter Basic Information**



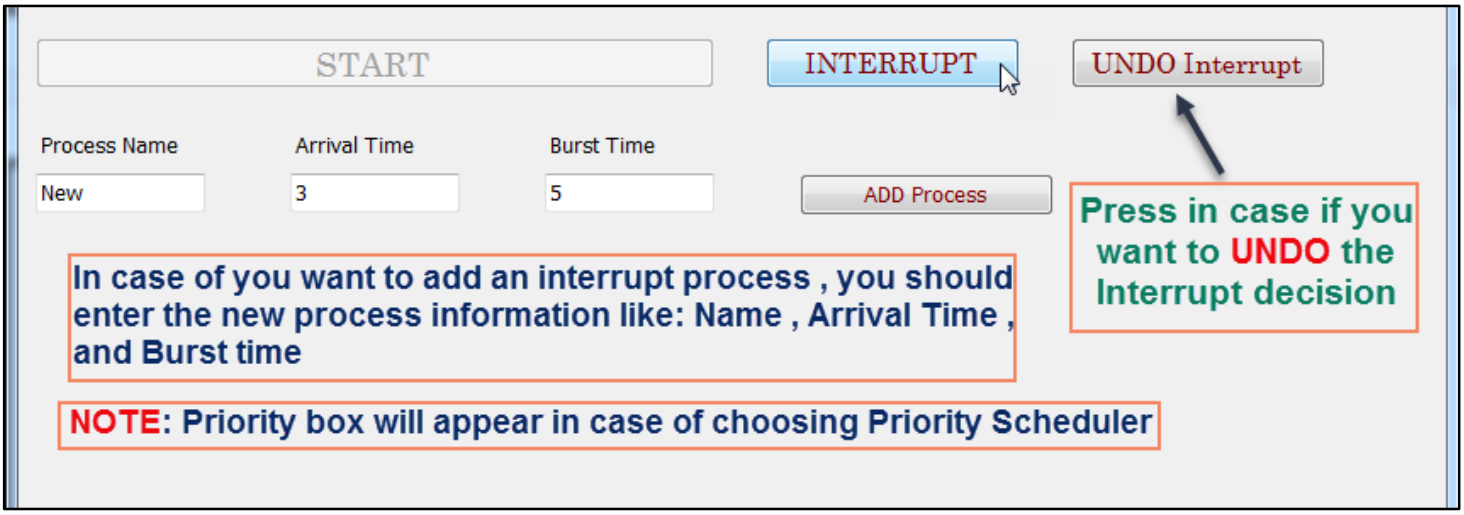
- **Enter Processes information and drawing the Gantt Chart**



- **Gantt Chart properties and INTERRUPT option**



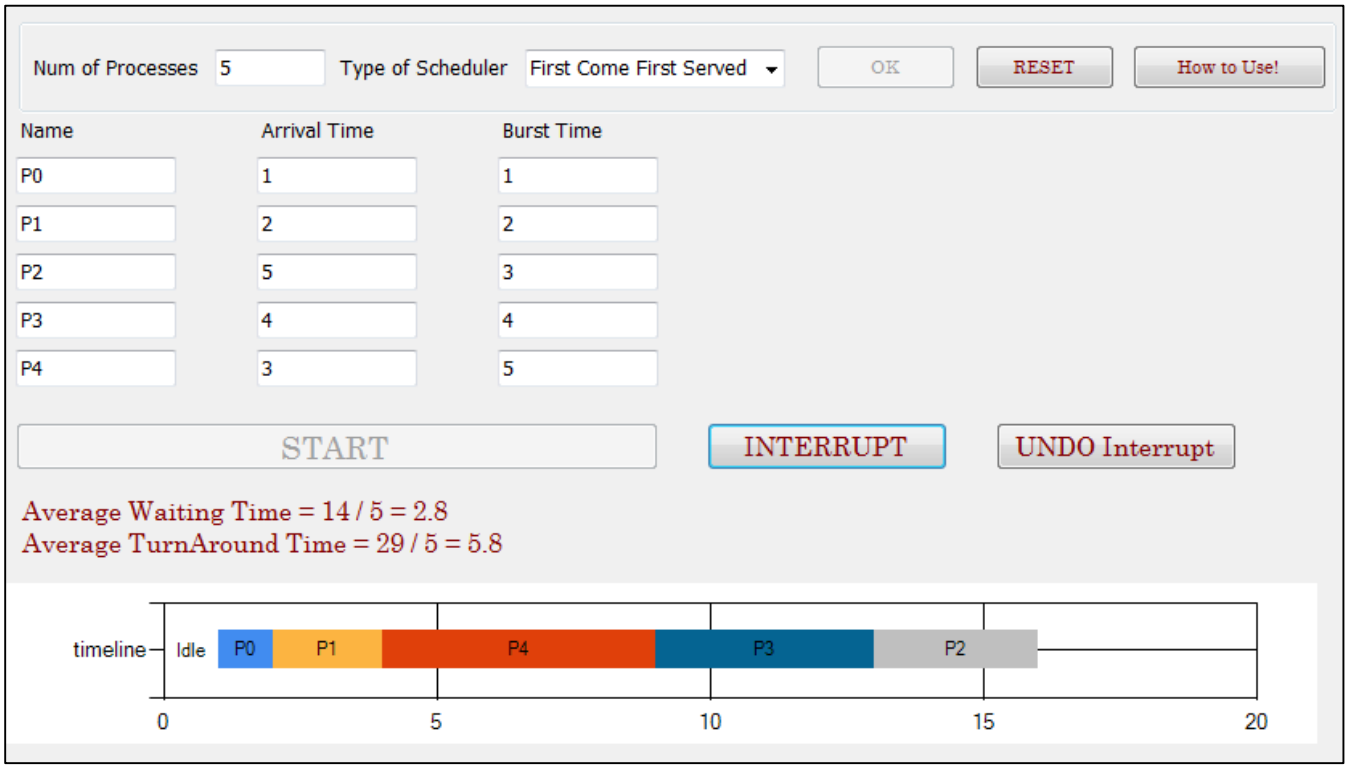
- **In case of using Interrupt**



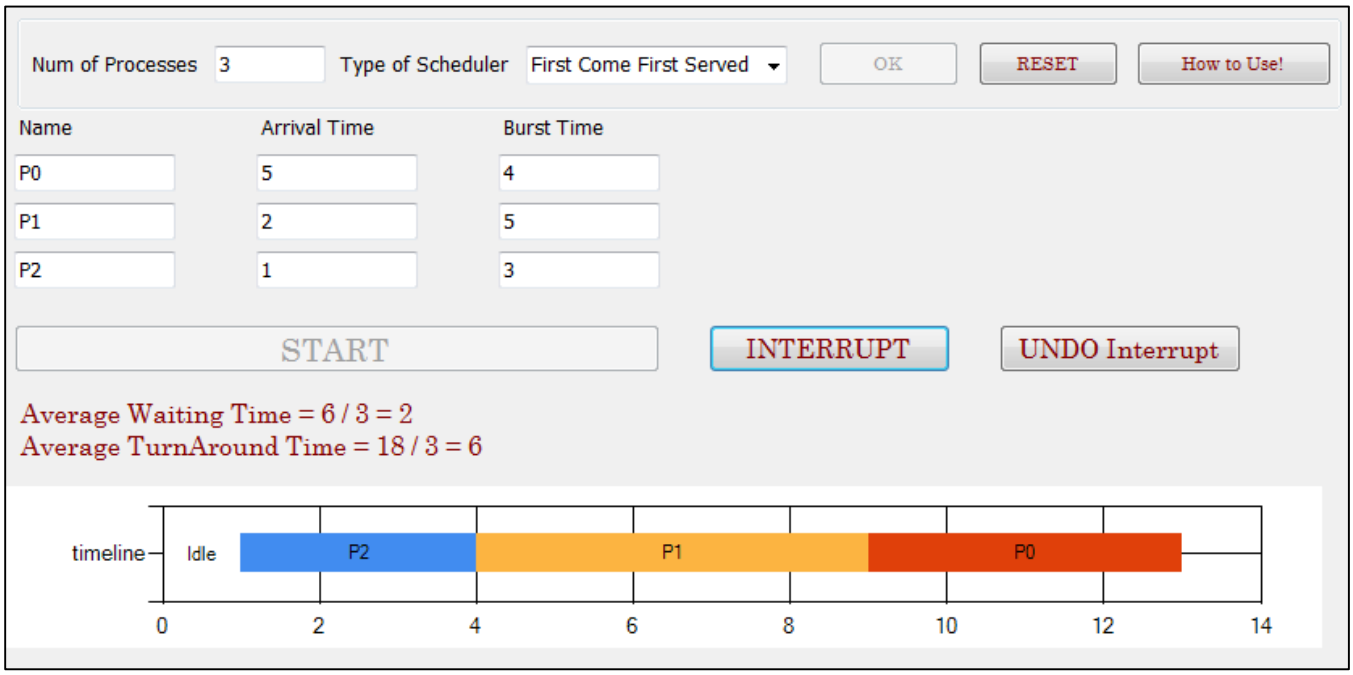
- **Snapshots for different scheduling techniques**

1- FCFS:

Case 1:

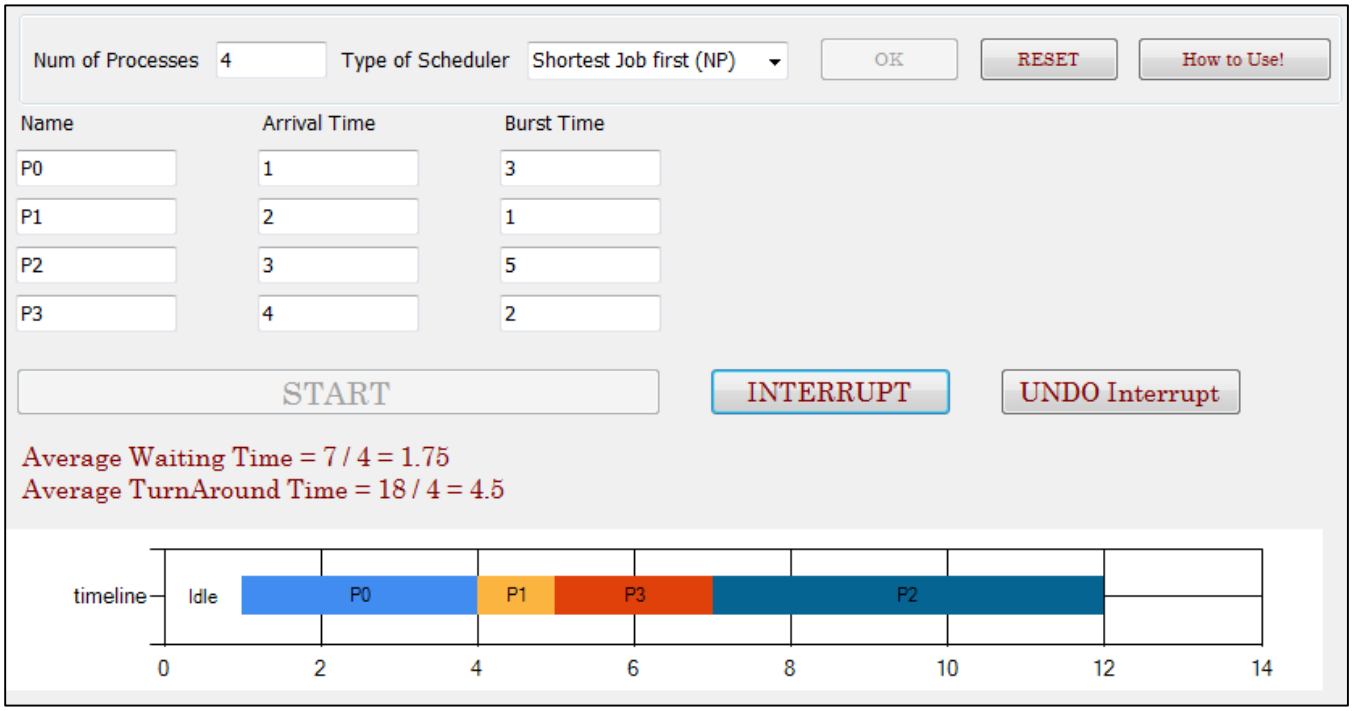


Case 2:

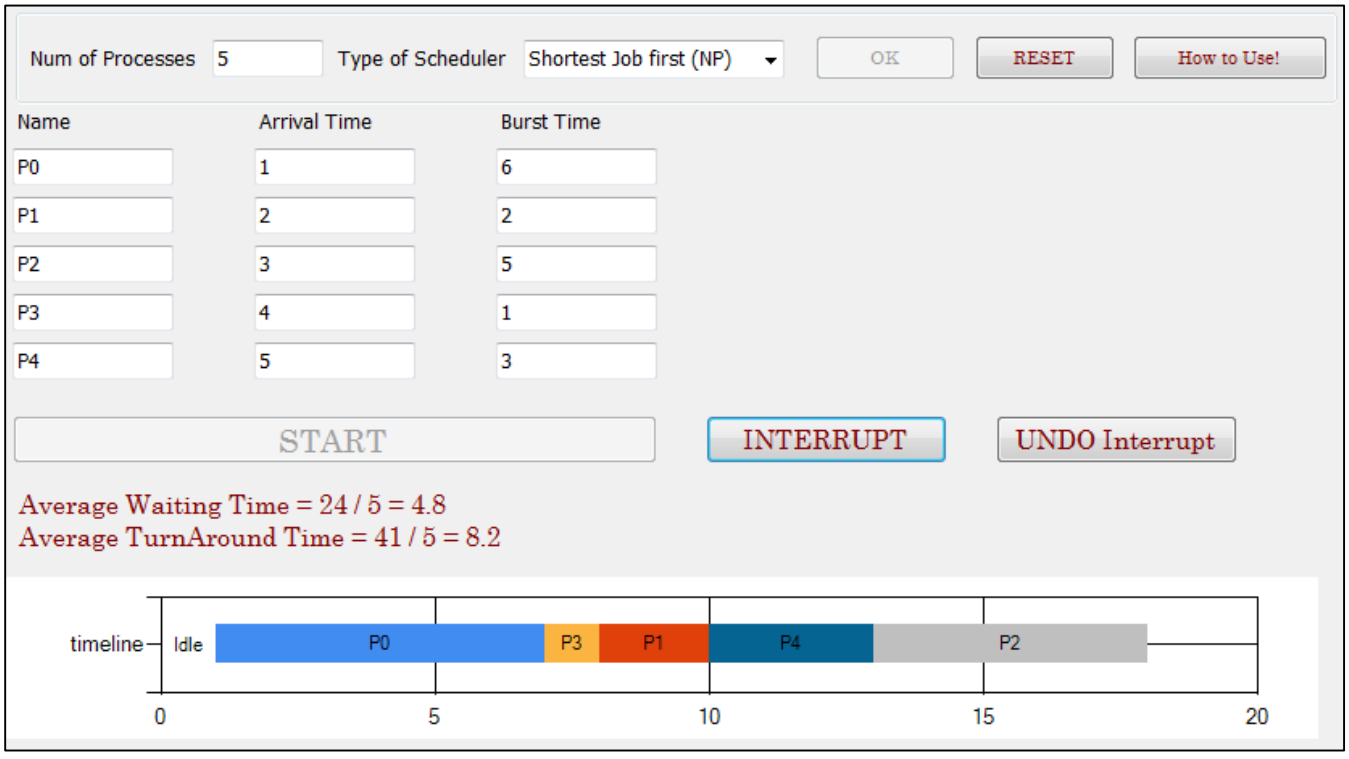


2- SJF (NP):

Case 1:



Case 2:



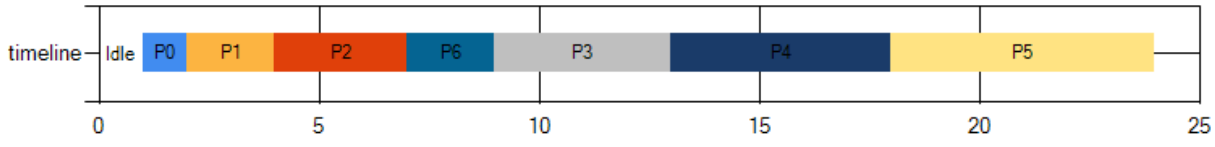
Case 3:

Num of Processes 7 | Type of Scheduler: Shortest Job first (NP) | OK | RESET | How to Use!

Name	Arrival Time	Burst Time
P0	1	1
P1	2	2
P2	3	3
P3	4	4
P4	5	5
P5	6	6
P6	7	2

START | INTERRUPT | UNDO Interrupt

Average Waiting Time = 26 / 7 = 3.71428571428571
Average TurnAround Time = 49 / 7 = 7



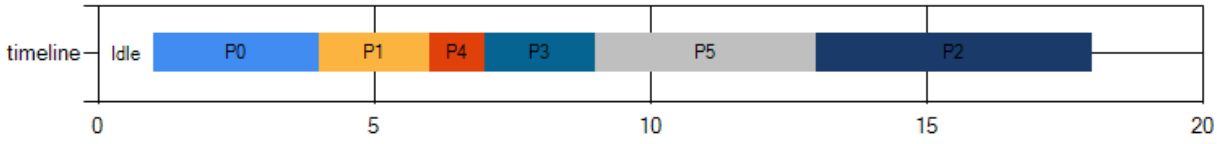
Case 4:

Num of Processes 6 | Type of Scheduler: Shortest Job first (NP) | OK | RESET | How to Use!

Name	Arrival Time	Burst Time
P0	1	3
P1	2	2
P2	3	5
P3	4	2
P4	5	1
P5	6	4

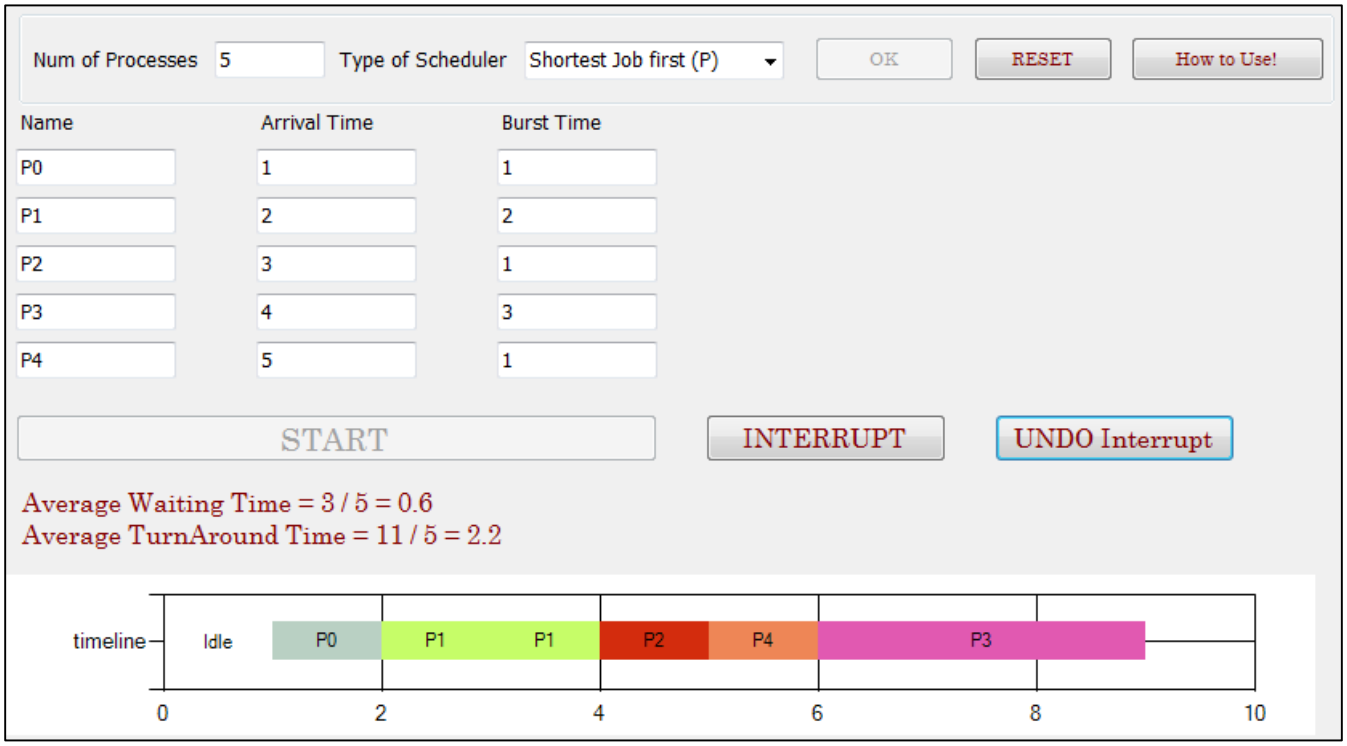
START | INTERRUPT | UNDO Interrupt

Average Waiting Time = 19 / 6 = 3.16666666666667
Average TurnAround Time = 36 / 6 = 6

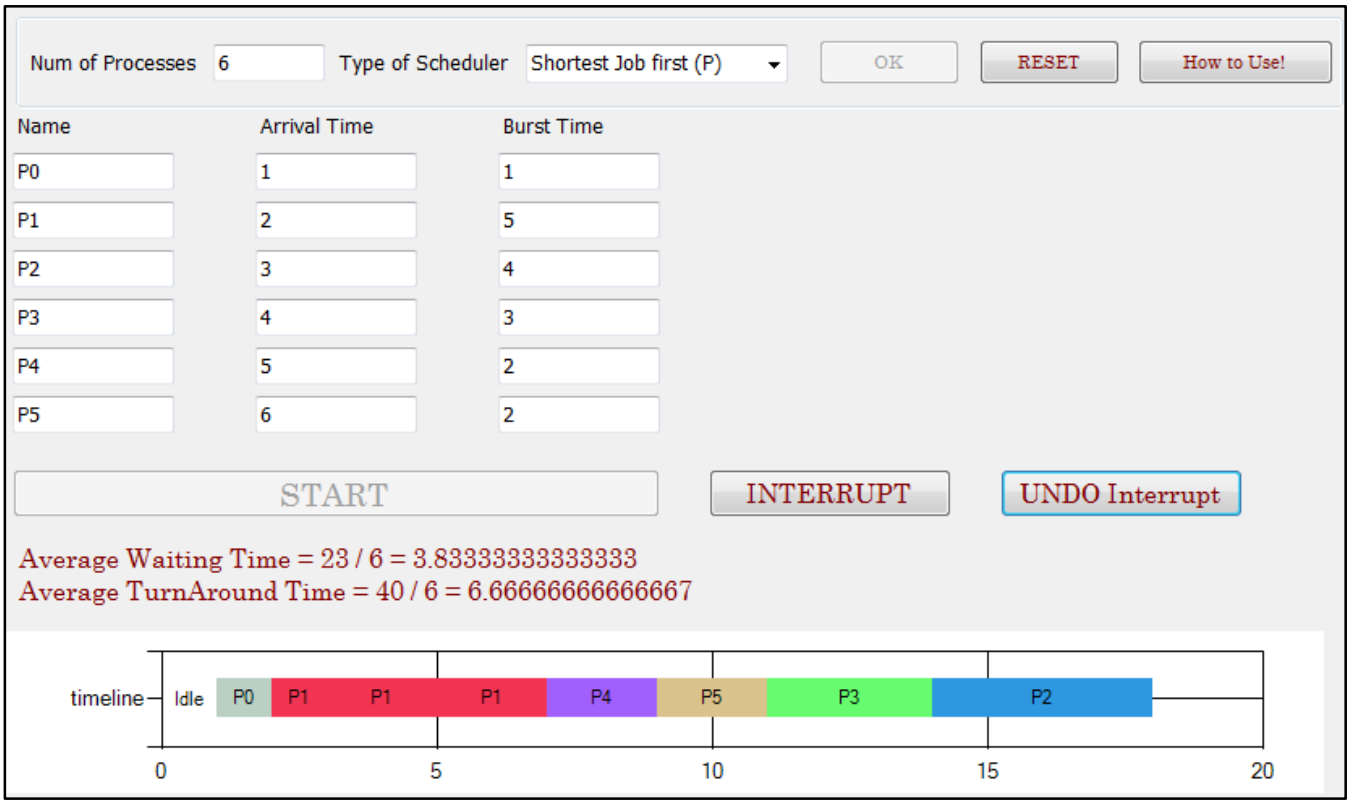


3- SJF (P):

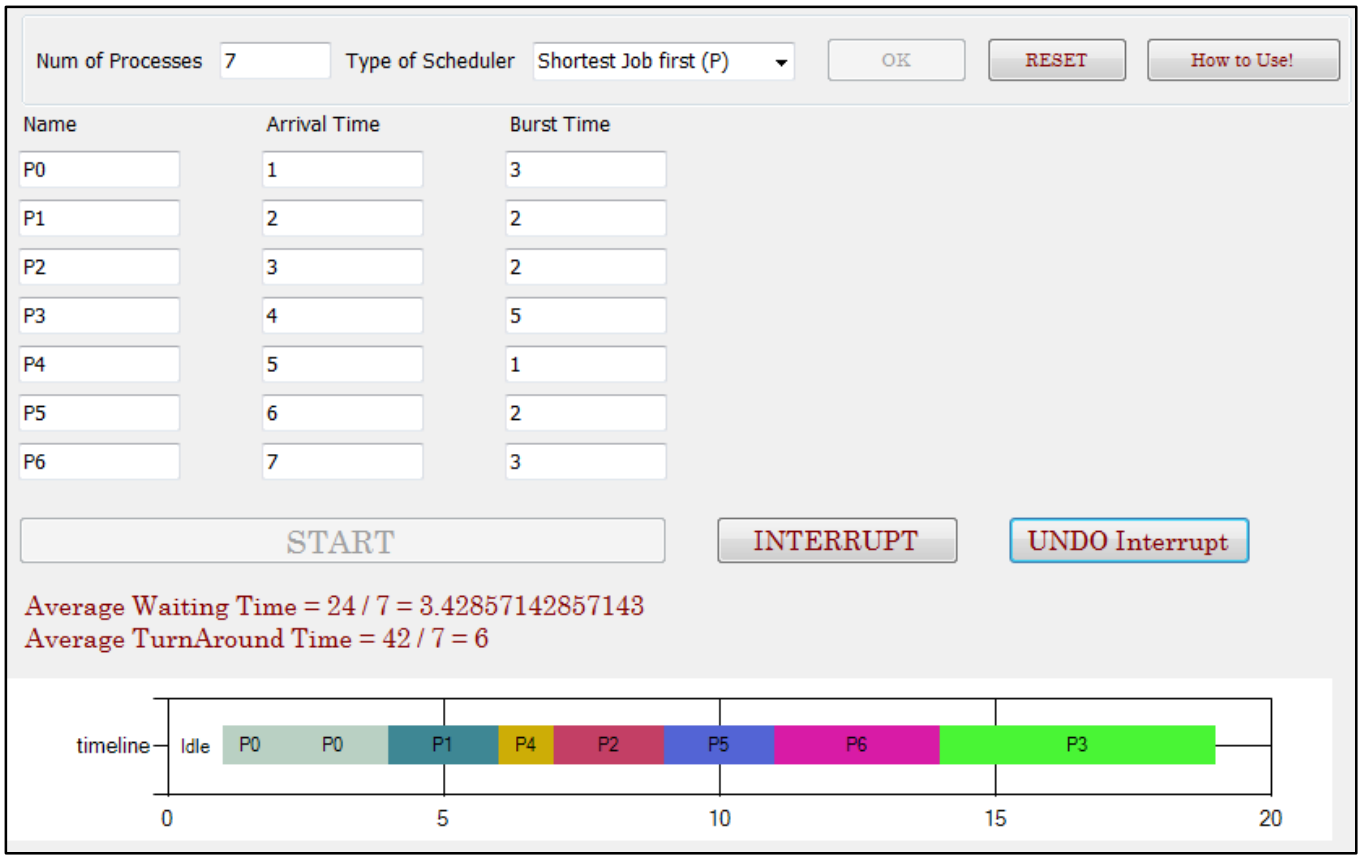
Case 1:



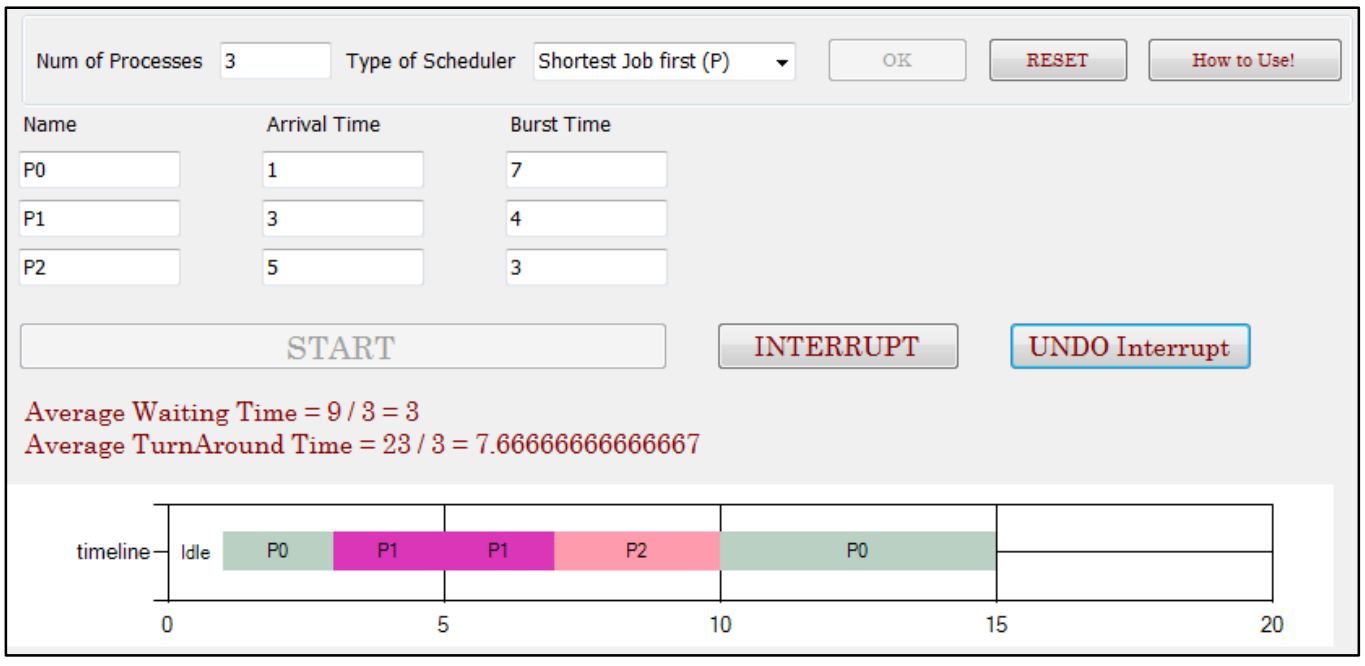
Case 2:



Case 3:

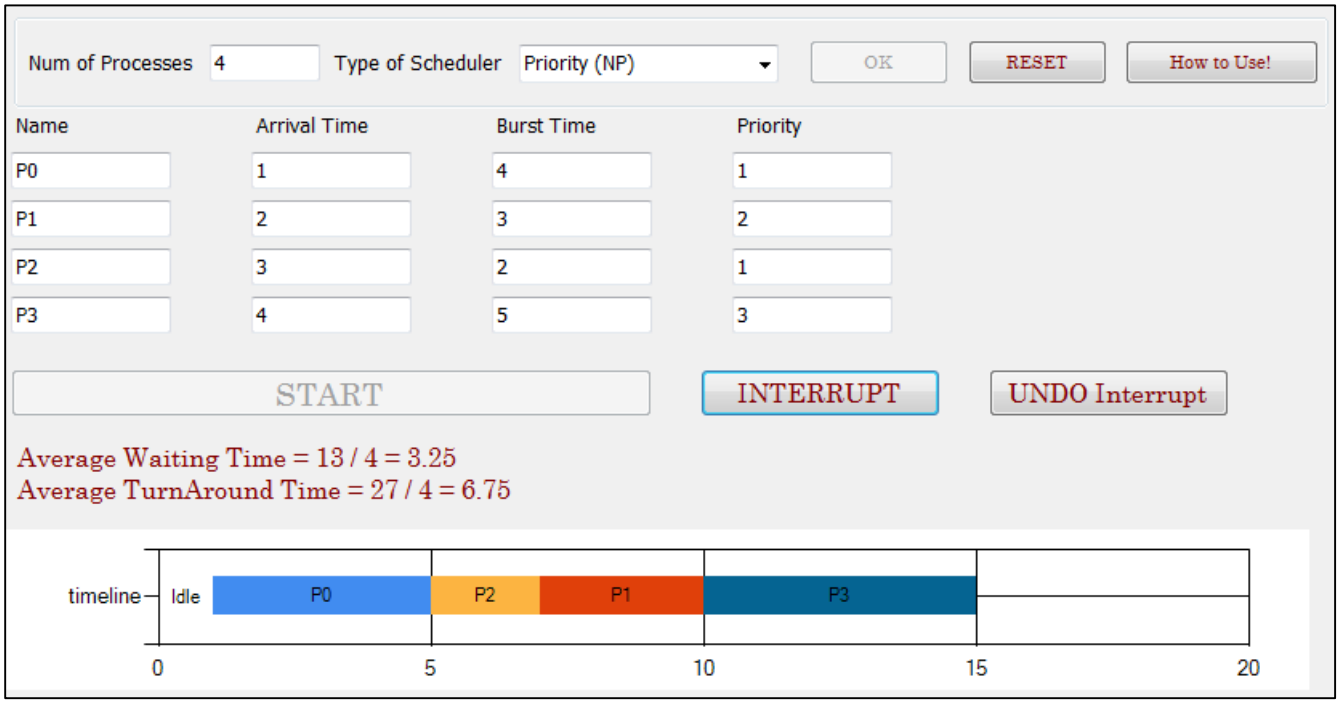

Num of Processes 7
Type of Scheduler Shortest Job first (P)
OK
RESET
How to Use!
Name
Arrival Time
Burst Time
P0 1 3
P1 2 2
P2 3 2
P3 4 5
P4 5 1
P5 6 2
P6 7 3
START
INTERRUPT
UNDO Interrupt
Average Waiting Time = 24 / 7 = 3.42857142857143
Average TurnAround Time = 42 / 7 = 6
timeline
Idle
P0
P0
P1
P4
P2
P5
P6
P3
0
5
10
15
20

Case 4:

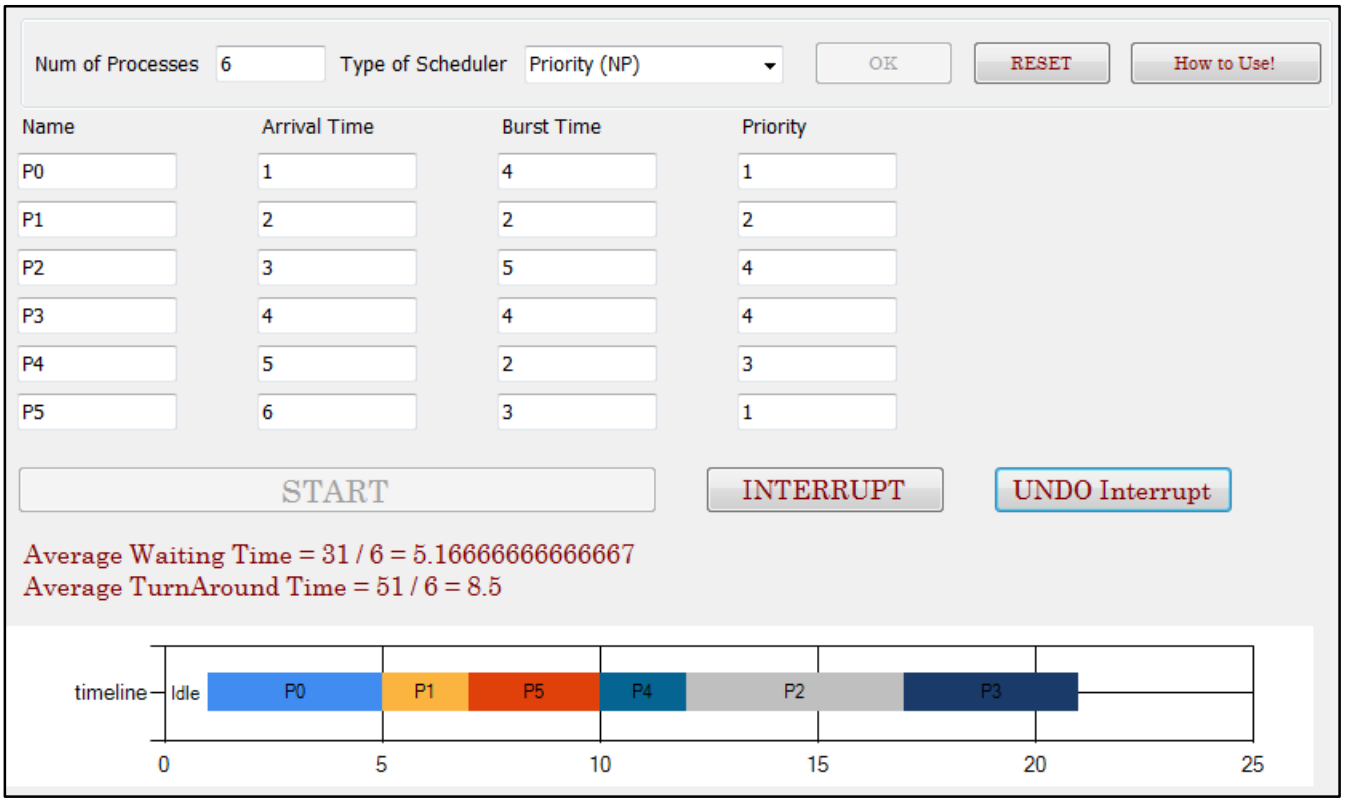

Num of Processes 3
Type of Scheduler Shortest Job first (P)
OK
RESET
How to Use!
Name
Arrival Time
Burst Time
P0 1 7
P1 3 4
P2 5 3
START
INTERRUPT
UNDO Interrupt
Average Waiting Time = 9 / 3 = 3
Average TurnAround Time = 23 / 3 = 7.66666666666667
timeline
Idle
P0
P1
P1
P2
P0
0
5
10
15
20

4- Priority (NP):

Case 1:



Case 2:



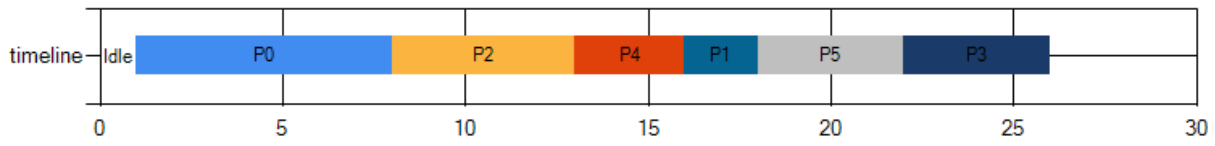
Case 3:

Num of Processes 6 | Type of Scheduler: Priority (NP) | OK | RESET | How to Use!

Name	Arrival Time	Burst Time	Priority
P0	1	7	3
P1	2	2	2
P2	3	5	1
P3	4	4	4
P4	5	3	1
P5	6	4	2

START | INTERRUPT | UNDO Interrupt

Average Waiting Time = 57 / 6 = 9.5
Average TurnAround Time = 82 / 6 = 13.6666666666667



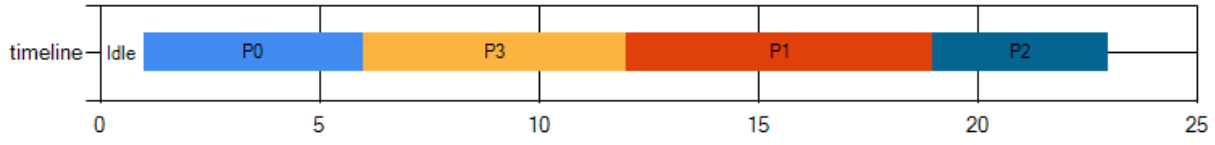
Case 4:

Num of Processes 4 | Type of Scheduler: Priority (NP) | OK | RESET | How to Use!

Name	Arrival Time	Burst Time	Priority
P0	1	5	2
P1	2	7	2
P2	3	4	2
P3	4	6	1

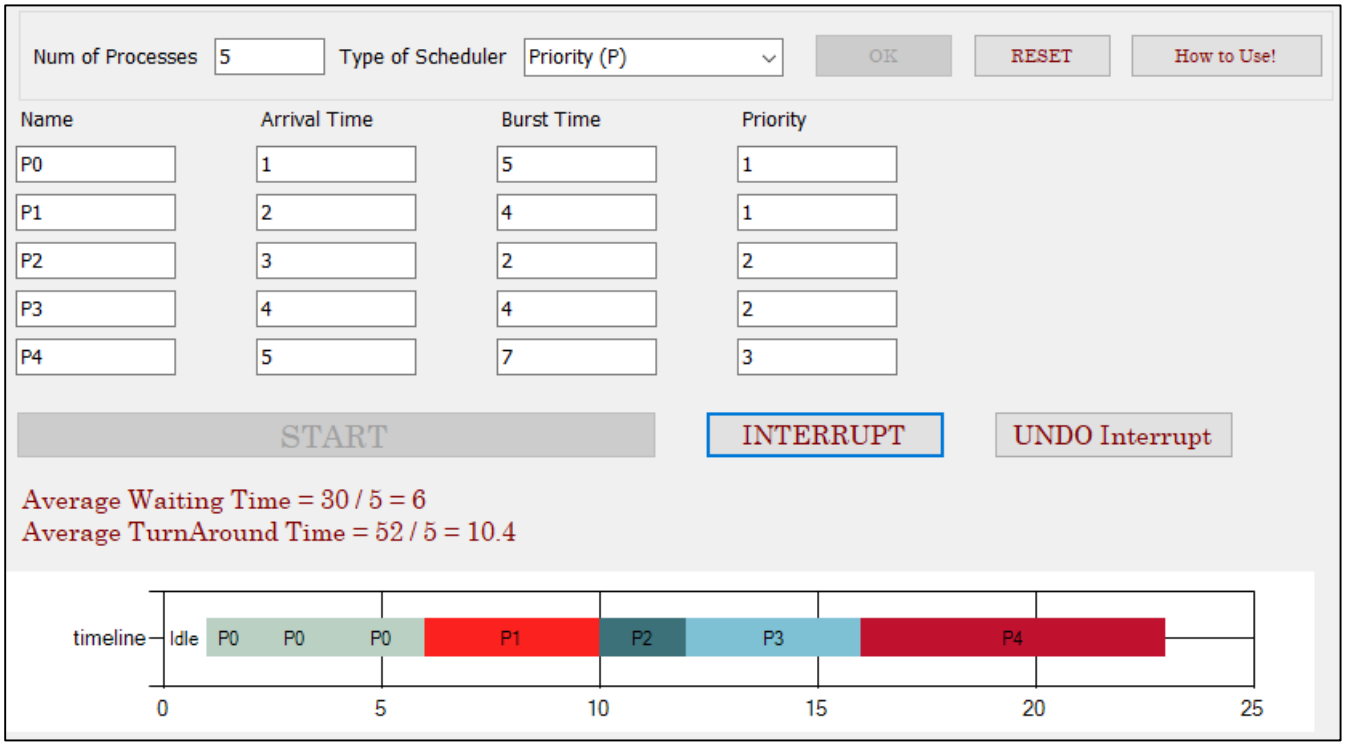
START | INTERRUPT | UNDO Interrupt

Average Waiting Time = 28 / 4 = 7
Average TurnAround Time = 50 / 4 = 12.5

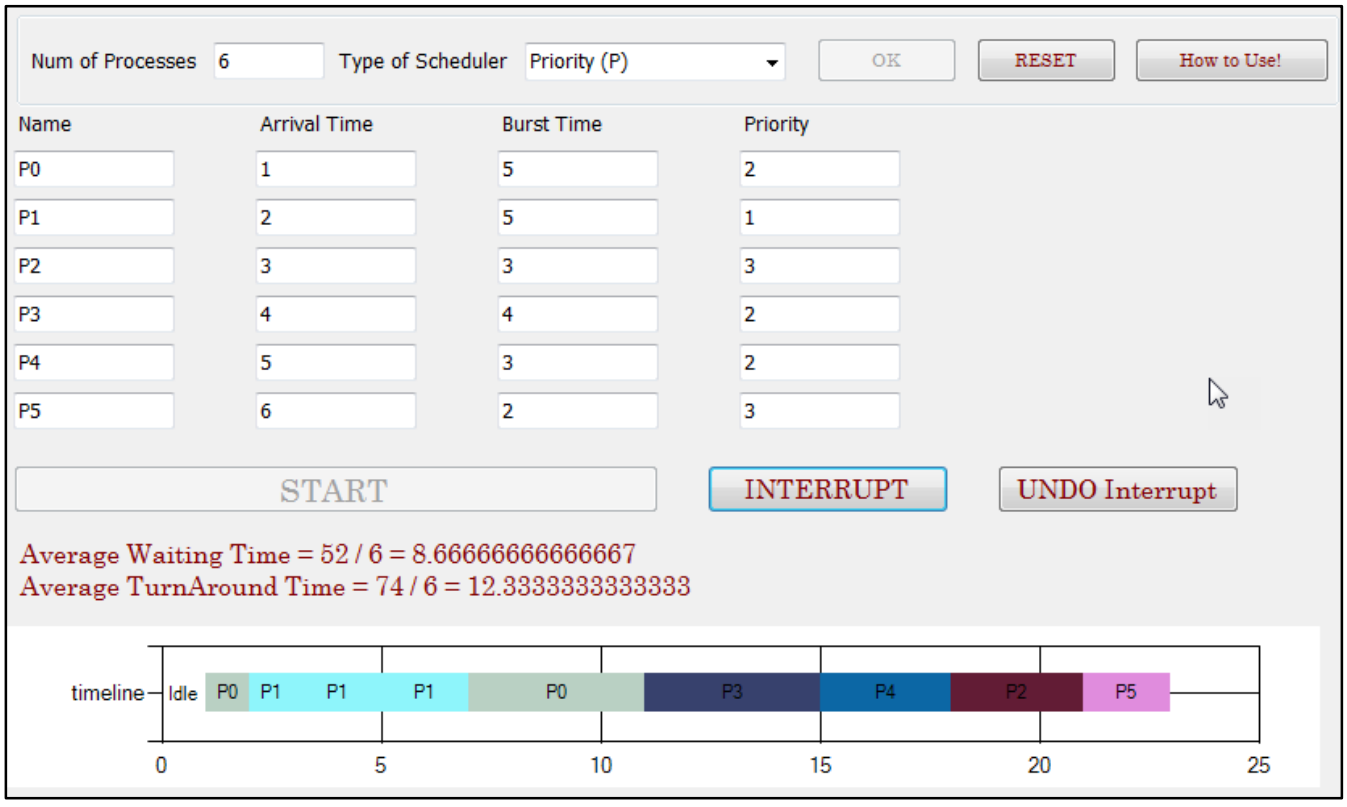


5- Priority (P):

Case 1:



Case 2:



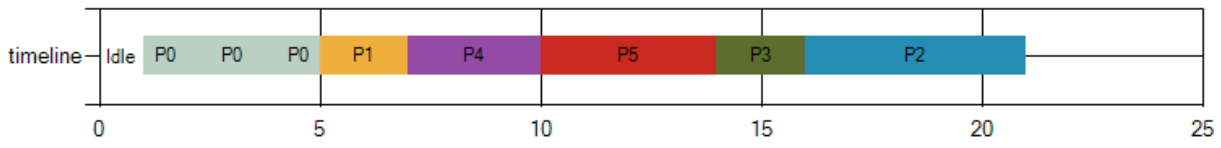
Case 3:

Num of Processes 6 | Type of Scheduler: Priority (P) | OK | RESET | How to Use!

Name	Arrival Time	Burst Time	Priority
P0	1	4	1
P1	2	2	2
P2	3	5	4
P3	4	2	3
P4	5	3	2
P5	6	4	2

START | INTERRUPT | UNDO Interrupt

Average Waiting Time = 27 / 6 = 4.5
Average TurnAround Time = 47 / 6 = 7.83333333333333



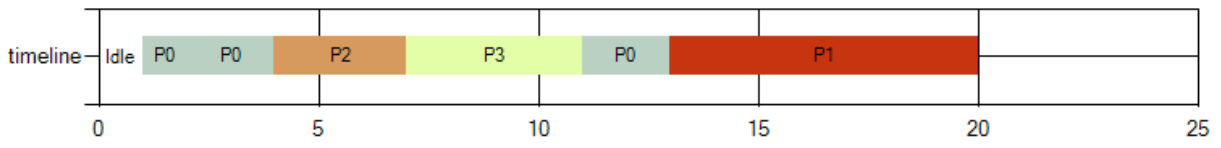
Case 4:

Num of Processes 4 | Type of Scheduler: Priority (P) | OK | RESET | How to Use!

Name	Arrival Time	Burst Time	Priority
P0	1	5	2
P1	2	7	2
P2	3	3	1
P3	4	4	1

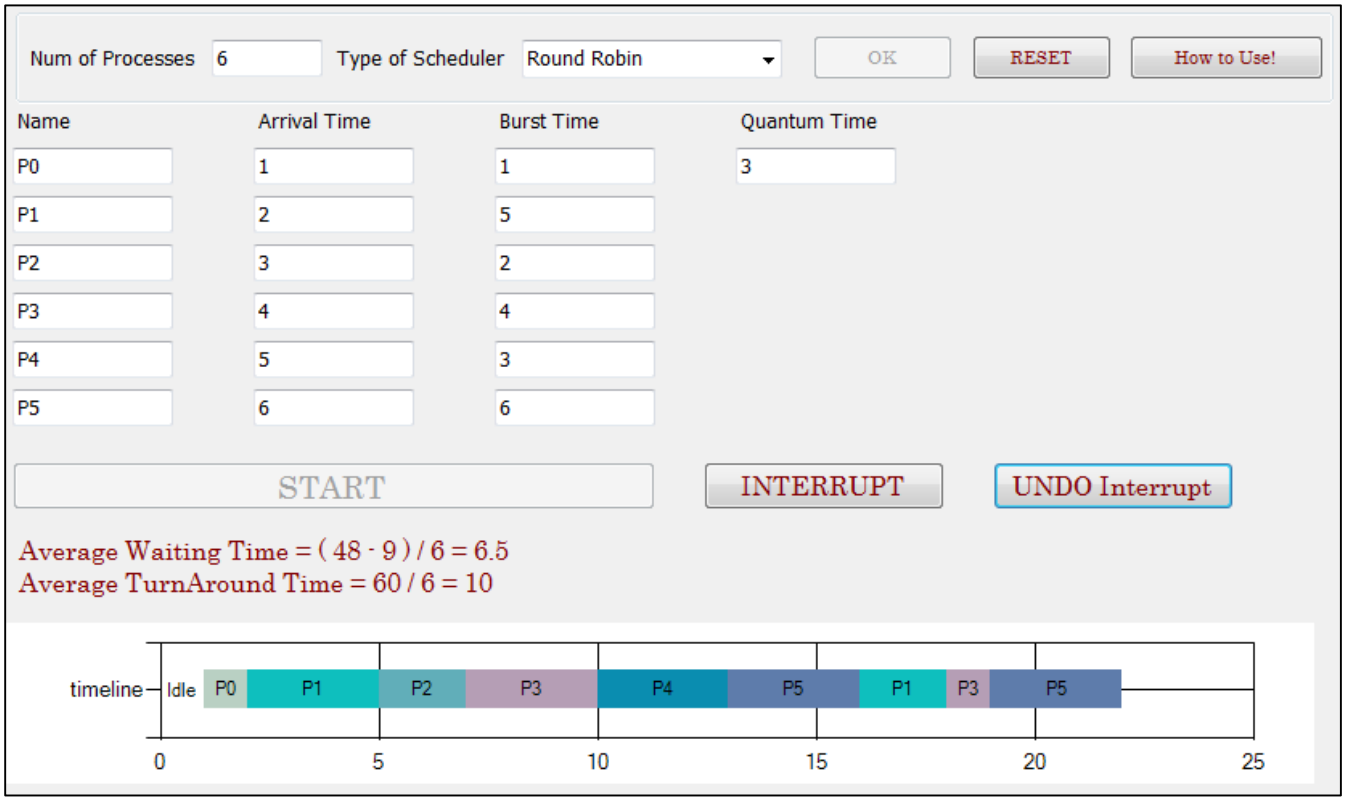
START | INTERRUPT | UNDO Interrupt

Average Waiting Time = 22 / 4 = 5.5
Average TurnAround Time = 41 / 4 = 10.25

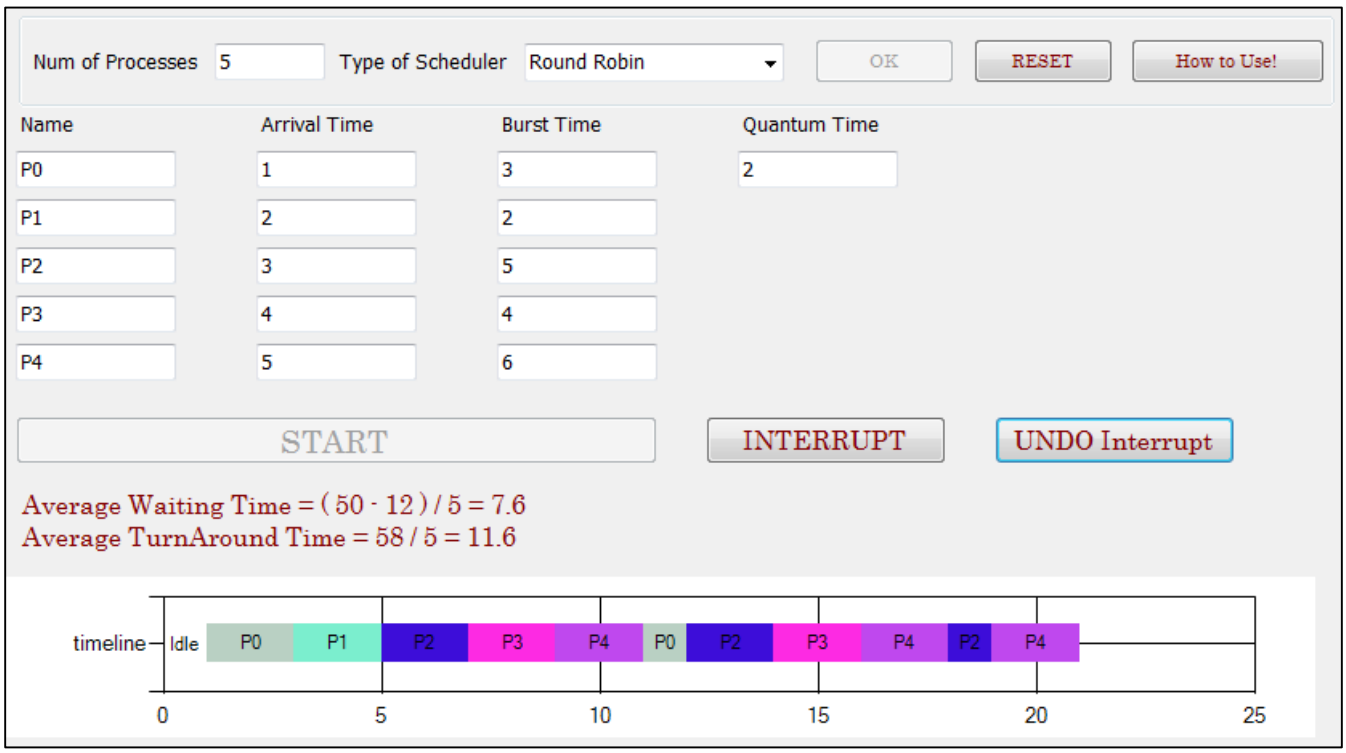


6- Round Robin

Case 1:



Case 2:



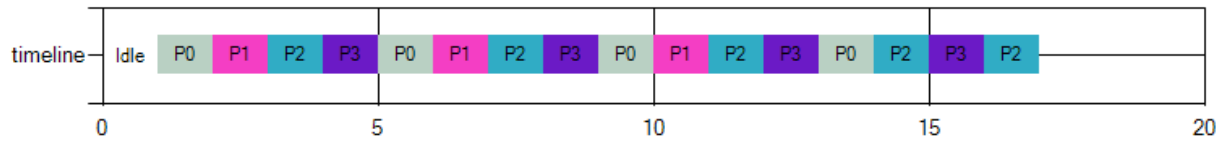
Case 3:

Num of Processes: 4 | Type of Scheduler: Round Robin | OK | RESET | How to Use!

Name	Arrival Time	Burst Time	Quantum Time
P0	1	4	1
P1	2	3	
P2	3	5	
P3	4	4	

START | INTERRUPT | UNDO Interrupt

Average Waiting Time = (44 - 12) / 4 = 8
Average TurnAround Time = 48 / 4 = 12



Case 4:

Num of Processes: 7 | Type of Scheduler: Round Robin | OK | RESET | How to Use!

Name	Arrival Time	Burst Time	Quantum Time
P0	1	7	4
P1	2	2	
P2	3	3	
P3	4	8	
P4	5	3	
P5	6	6	
P6	7	5	

START | INTERRUPT | UNDO Interrupt

Average Waiting Time = (117 - 16) / 7 = 14.4285714285714
Average TurnAround Time = 135 / 7 = 19.2857142857143