1. **The test runs using the given input files:**

* **All test runs for testdata1.txt:**

First-Come-First-Serve (FCFS):

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p5 ) |

0 =====> 8

p5 Memory usage: 800

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p3 ) |

8 =====> 18

p3 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p8 ) |

18 =====> 21

p8 Memory usage: 4000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p6 ) |

21 =====> 28

p6 Memory usage: 1000

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| pID | Burst Time | Turnaround Time | Waiting Time | Memory | Status |

5 8 8 0 800 Terminated

3 10 18 8 2000 Terminated

8 3 21 18 4000 Terminated

6 7 28 21 1000 Terminated

|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

Average Waiting Time = 11.75 msec

Average Turnaround Time = 18.75 msec

Shortest-Job-First (SJF):

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p8 ) |

0 =====> 3

p8 Memory usage: 4000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p6 ) |

3 =====> 10

p6 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p5 ) |

10 =====> 18

p5 Memory usage: 800

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p3 ) |

18 =====> 28

p3 Memory usage: 2000

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| pID | Burst Time | Turnaround Time | Waiting Time | Memory | Status |

8 3 3 0 4000 Terminated

6 7 10 3 1000 Terminated

5 8 18 10 800 Terminated

3 10 28 18 2000 Terminated

|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

Average Waiting Time = 7.75 msec

Average Turnaround Time = 14.75 msec

Round-Robin with time slice = 3 (RR-3):

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p5 ) |

0 =====> 3

p5 Memory usage: 800

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p3 ) |

3 =====> 6

p3 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p8 ) |

6 =====> 9

p8 Memory usage: 4000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p6 ) |

9 =====> 12

p6 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p5 ) |

12 =====> 15

p5 Memory usage: 800

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p3 ) |

15 =====> 18

p3 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p6 ) |

18 =====> 21

p6 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p5 ) |

21 =====> 23

p5 Memory usage: 800

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p3 ) |

23 =====> 26

p3 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p6 ) |

26 =====> 27

p6 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p3 ) |

27 =====> 28

p3 Memory usage: 2000

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| pID | Burst Time | Turnaround Time | Waiting Time | Memory | Status |

8 3 9 6 4000 Terminated

5 8 23 15 800 Terminated

6 7 27 20 1000 Terminated

3 10 28 18 2000 Terminated

|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

Average Waiting Time = 14.75 msec

Average Turnaround Time = 21.75 msec

Round-Robin with time slice = 5 (RR-5):

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p5 ) |

0 =====> 5

p5 Memory usage: 800

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p3 ) |

5 =====> 10

p3 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p8 ) |

10 =====> 13

p8 Memory usage: 4000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p6 ) |

13 =====> 18

p6 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p5 ) |

18 =====> 21

p5 Memory usage: 800

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p3 ) |

21 =====> 26

p3 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p6 ) |

26 =====> 28

p6 Memory usage: 1000

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| pID | Burst Time | Turnaround Time | Waiting Time | Memory | Status |

8 3 13 10 4000 Terminated

5 8 21 13 800 Terminated

3 10 26 16 2000 Terminated

6 7 28 21 1000 Terminated

|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

Average Waiting Time = 15.0 msec

Average Turnaround Time = 22.0 msec

* **All test runs for testdata2.txt:**

First-Come-First-Serve (FCFS):

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p7 ) |

0 =====> 5

p7 Memory usage: 100

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

5 =====> 25

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p9 ) |

25 =====> 33

p9 Memory usage: 3000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

33 =====> 58

p1 Memory usage: 2000

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| pID | Burst Time | Turnaround Time | Waiting Time | Memory | Status |

7 5 5 0 100 Terminated

4 20 25 5 1000 Terminated

9 8 33 25 3000 Terminated

1 25 58 33 2000 Terminated

|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

Average Waiting Time = 15.75 msec

Average Turnaround Time = 30.25 msec

Shortest-Job-First (SJF):

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p7 ) |

0 =====> 5

p7 Memory usage: 100

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p9 ) |

5 =====> 13

p9 Memory usage: 3000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

13 =====> 33

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

33 =====> 58

p1 Memory usage: 2000

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| pID | Burst Time | Turnaround Time | Waiting Time | Memory | Status |

7 5 5 0 100 Terminated

9 8 13 5 3000 Terminated

4 20 33 13 1000 Terminated

1 25 58 33 2000 Terminated

|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

Average Waiting Time = 12.75 msec

Average Turnaround Time = 27.25 msec

Round-Robin with time slice = 3 (RR-3):

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p7 ) |

0 =====> 3

p7 Memory usage: 100

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

3 =====> 6

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p9 ) |

6 =====> 9

p9 Memory usage: 3000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

9 =====> 12

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p7 ) |

12 =====> 14

p7 Memory usage: 100

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

14 =====> 17

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p9 ) |

17 =====> 20

p9 Memory usage: 3000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

20 =====> 23

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

23 =====> 26

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p9 ) |

26 =====> 28

p9 Memory usage: 3000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

28 =====> 31

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

31 =====> 34

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

34 =====> 37

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

37 =====> 40

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

40 =====> 43

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

43 =====> 46

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

46 =====> 49

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

49 =====> 51

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

51 =====> 54

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

54 =====> 57

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

57 =====> 58

p1 Memory usage: 2000

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| pID | Burst Time | Turnaround Time | Waiting Time | Memory | Status |

7 5 14 9 100 Terminated

9 8 28 20 3000 Terminated

4 20 51 31 1000 Terminated

1 25 58 33 2000 Terminated

|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

Average Waiting Time = 23.25 msec

Average Turnaround Time = 37.75 msec

Round-Robin with time slice = 5 (RR-5):

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p7 ) |

0 =====> 5

p7 Memory usage: 100

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

5 =====> 10

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p9 ) |

10 =====> 15

p9 Memory usage: 3000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

15 =====> 20

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

20 =====> 25

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p9 ) |

25 =====> 28

p9 Memory usage: 3000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

28 =====> 33

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

33 =====> 38

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

38 =====> 43

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p4 ) |

43 =====> 48

p4 Memory usage: 1000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

48 =====> 53

p1 Memory usage: 2000

|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

| ( p1 ) |

53 =====> 58

p1 Memory usage: 2000

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| pID | Burst Time | Turnaround Time | Waiting Time | Memory | Status |

7 5 5 0 100 Terminated

9 8 28 20 3000 Terminated

4 20 48 28 1000 Terminated

1 25 58 33 2000 Terminated

|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|

Average Waiting Time = 20.25 msec

Average Turnaround Time = 34.75 msec