1. a) Write a shell program to check whether a given string is a palindrome or not.

   b) Implement SJF Pre-emptive scheduling algorithm   by defining process structure.

   Write the expected output for the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

2. a) Write a shell program to generate prime no. in a given range.

   b) Implement Priority Pre-emptive scheduling algorithm   by defining process structure.

   Write the expected output for the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Priority	Burst Time
P1	1	3	8
P2	4	4	2
P3	3	5	4
P4	4	4	1
P5	10	6	6
P6	6	1	5

3. a) Write a shell program to find largest of n numbers, storing numbers in an array .

   b) Implement SJF Pre-emptive scheduling algorithm   by defining process structure.

   Write the expected output for the following the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

4. a) Write a shell program to check whether a given no. is a palindrome or not.

   b) Implement Round Robin scheduling algorithm by defining process structure.

   Write the expected output for the following set of processes along with the Gantt chart, execute the program for the same i/p.

   Time Quantum : 3ms

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

5. a) Write a shell program to Read two matrices , find addition and display the input matrices and resultant in matrix format

   b) Implement SJF Pre-emptive scheduling algorithm by defining process structure. Write the expected output for the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

6. a) Write a program to find the largest of N numbers in an array with the following requirements:
   - Parent program should create a child and distribute the task of finding largest to its child.
   - The code for finding largest should reside in different program.
   - Child should write the largest number to a shared memory.
   - Parent process has to printthe largest by retrieving from the shared memory.
   Implement the above using shmget and shmat
   Note: Shared object should be removed at the end in the program

   b) Implement FCFS scheduling algorithm by defining process structure.

   Write the expected output for the following the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

7. a) Write a program to generate first N ODD numbers with the following requirements:
   - Parent program should create a child and distribute the task of generating odd numbers to its child.
   - The code for generating odd numbers should reside in different program.
   - Child should write the odd numbers to a shared memory.
   - Parent process has to print the odd numbers by retrieving from the shared memory.
   Implement the above using shmget and shmat
   Note: Shared object should be removed at the end in the program

   b) Implement SJF Non-Pre-emptive scheduling algorithm by defining process structure.

   Write the expected output for the following the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

8. a) Write a program to find the largest of N numbers in an array with the following requirements:
   - Parent program should create a child and distribute the task of finding largest to its child.
   - The code for finding largest should reside in different program.
   - Child should write the largest number to a shared memory.
   - Parent process has to printthe largest by retrieving from the shared memory.
     Implement the above using shm_open and mmap
   Note: Shared object should be removed at the end in the program

   b) Implement SJF Non-Pre-emptive scheduling algorithm by defining process structure.

   Write the expected output for the following the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

9. a) Write a program to generate first N ODD numbers with the following requirements:
   - Parent program should create a child and distribute the task of generating odd numbers to its child.
   - The code for generating odd numbers should reside in different program.
   - Child should write the odd numbers to a shared memory.
   - Parent process has to print the odd numbers by retrieving from the shared memory.
     Implement the above using shm_open and mmap
   Note: Shared object should be removed at the end in the program

   b) Implement FCFS scheduling algorithm by defining process structure.
   Write the expected output for the following the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

10. a) Write a shell program to check whether a given string is a palindrome or not.

   b) Implement SJF Pre-emptive scheduling algorithm   by defining process structure.

   Write the expected output for the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

11. a) Write a shell program to generate prime no. in a given range.

   b) Implement Priority Pre-emptive scheduling algorithm   by defining process structure.

   Write the expected output for the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Priority	Burst Time
P1	1	3	8
P2	4	4	2
P3	3	5	4
P4	4	4	1
P5	10	6	6
P6	6	1	5

12. a) Write a shell program to find largest of n numbers, storing numbers in an array .

   b) Implement SJF Pre-emptive scheduling algorithm   by defining process structure.

   Write the expected output for the following the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

13. a) Write a shell program to check whether a given no. is a palindrome or not.

b) Implement Round Robin scheduling algorithm by defining process structure.

Write the expected output for the following set of processes along with the Gantt chart, execute the program for the same i/p.

Time Quantum : 3ms

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

14. a) Write a shell program to Read two matrices , find addition and display the input matrices and resultant in matrix format

b) Implement SJF Pre-emptive scheduling algorithm by defining process structure. Write the expected output for the following set of processes along with the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

15. a) Write a program to find the largest of N numbers in an array with the following

requirements:
- Parent program should create a child and distribute the task of finding largest
  to its child.
- The code for finding largest should reside in different program.
- Child should write the largest number to a shared memory.
- Parent process has to printthe largest by retrieving from the
shared memory.
Implement the above using shmget and shmat
Note: Shared object should be removed at the end in the program

b) Implement FCFS scheduling algorithm by defining process structure.

Write the expected output for the following the following set of processes along with
the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

16. a) Write a program to generate first N ODD numbers with the following
    requirements:
    - Parent program should create a child and distribute the task of generating odd
    numbers to its child.
    - The code for generating odd numbers should reside in different program.
    - Child should write the odd numbers to a shared memory.
    - Parent process has to print the odd numbers by retrieving from the
    shared memory.
     Implement the above using shmget and shmat
   Note: Shared object should be removed at the end in the program

   b) Implement SJF Non-Pre-emptive scheduling algorithm by defining process structure.

   Write the expected output for the following the following set of processes along with
   the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

17. a) Write a program to find the largest of N numbers in an array with the following

requirements:
- Parent program should create a child and distribute the task of finding largest
   to its child.
- The code for finding largest should reside in different program.
- Child should write the largest number to a shared memory.
- Parent process has to printthe largest by retrieving from the
shared memory.
   Implement the above using shm_open and mmap
Note: Shared object should be removed at the end in the program

b) Implement SJF Non-Pre-emptive scheduling algorithm   by defining process structure.

Write the expected output for the following the following set of processes along with
the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5

18. a) Write a program to generate first N ODD numbers with the following
requirements:
- Parent program should create a child and distribute the task of generating odd
numbers to its child.
- The code for generating odd   numbers should reside in different program.
- Child should write the odd   numbers to a shared memory.
- Parent process has to print the odd   numbers by retrieving from the
shared memory.
Implement the above using shm_open and mmap
Note: Shared object should be removed at the end in the program

b) Implement FCFS scheduling algorithm   by defining process structure.
Write the expected output for the following the following set of processes along with
the Gantt chart, execute the program for the same i/p.

Process ID	Arrival Time	Burst Time
P1	1	8
P2	4	2
P3	3	4
P4	4	1
P5	10	6
P6	6	5