

BRACT'S
Vishwakarma Institute of Technology
Department of Computer Engineering
Academic Year 2022-23 Sem-II

Operating System Lab Problem Statements:

✓ 1	Write a shell script to sort an array of numbers using any sort method.
2	<p>Write down Linux commands for following statements:</p> <p>i. ✓ Redirect the output of ls command to a file named outfile. Use this as an input file ls >> outfile for remaining commands.</p> <p>ii. ✓ To select the lines in a file which has digit as one of the character in that line and redirect the output to the file named list.</p> <p>iii. ✓ Assign execute permission to owner and remove read permission from other for an ordinary file named test by relative way.</p> <p>iv. ✓ Create an alias named rm that always deletes file interactively.</p> <p>v. ✓ Count the currently login users to the system.</p>
✓ 3	<p>Write down Linux commands for following statements:</p> <p>i. ✓ Redirect the output of cat command to a file named outfile. Use this as an input file for remaining commands.</p> <p>ii. ✓ List all hidden files under current directory and store in "hidden" file</p> <p>iii. ✓ Assign write permission to owner and remove execute permission from other for an ordinary file named test by absolute way.</p> <p>iv. ✓ To create soft and hard link for given file</p> <p>v. ✓ To convert lowercase to upper case of a given file</p> <p>vi. ✓ To extract 1st and 10th character of a given file</p> <p>vii. ✓ To display how many times lines are repeated in a given file</p>
4	Write a program to solve reader-writer problem using Mutex.
5	Write a program to solve producer-consumer problem using semaphore
6	Write a program to solve dining philosopher problem using semaphore
✓ 7	<p>Draw the Gantt charts and compute the finish time, turnaround time and waiting time for the following algorithms:</p> <p>✓ A. First come First serve ✓ B. Shortest Job First (Non Preemptive)</p>
✓ 8	<p>Draw the Gantt charts and compute the finish time, turnaround time and waiting time for the following algorithms:</p> <p>✓ A. First come First serve ✓ B. Round- Robin</p>

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9	Draw the Gantt charts and compute the finish time, turnaround time and waiting time for the following algorithms: A. First come First serve B. Priority scheduling (Non Preemptive)
10	Write a Shell script to check whether given number is prime or not. Also print the reverse of the given number.
11	Write a program to solve reader-writer problem using semaphore
12	Write a program to solve producer-consumer problem using Mutex.
13	Write a shell script to check and count occurrence of a sub-string in the given string using command line arguments.
14	Write a program to implement Banker's algorithm.
15	Draw the Gantt charts and compute the finish time, turnaround time and waiting time for the following algorithms: A. First come First serve B. Priority (Non Preemptive)
16	Draw the Gantt charts and compute the finish time, turnaround time and waiting time for the following algorithms: A. First come First serve B. Shortest Job First (Non Preemptive)
17	Draw the Gantt charts and compute the finish time, turnaround time and waiting time for the following algorithms: A. First come First serve B. Round- Robin
18	Write down Linux commands for following statements: <ul style="list-style-type: none"> i. To redirect the output of cp command to a file named outfile. Use this as an input file for remaining commands. ii. To select the lines in a file which has 4 letter words in that line and redirect the output to the file named list. iii. Assign write permission to owner and remove read permission from group user for an ordinary file named test by relative way. iv. Create an alias named ls that always lists all the files including hidden files.

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	v. Count the number of words in the list file.
19	<p>Write down Linux commands for following statements:</p> <ul style="list-style-type: none"> a. Redirect the output of mv command to a file named outfile. Use this as an input file for remaining commands. b. List all hidden files under current directory and store in "hidden" file c. Assign write permission to group user and remove execute permission from owner for an ordinary file named test by absolute way d. To create soft and hard link for given file e. To convert lowercase to upper case of a given file f. To extract 2nd and 3rd character of a given file g. To display how many times lines are repeated in a given file
20	Write a Shell script to check whether given number is palindrome or not. Also print the reverse of the given number.
21	Write a Shell script to find the Factorial of given number using Recurrence Method and Without Recurrence Method (Both way).
22	Write a Shell script to check whether given number is palindrome or not. Also print the reverse of the given number.
23	<p>Write a Program to Implement Page Replacement Algorithm Using:</p> <p>A. First Come First Serve B. Least Recently Used</p>
24	<p>Write a Program to Implement Page Replacement Algorithm Using:</p> <p>A. First Come First Serve B. Not Recently Used</p>
25	Write a program to implement Banker's algorithm.