

20. A

Thread 0: shared_data before increment: 0

Thread 0: shared_data after increment: 1

Thread 1: shared_data before increment: 1

Thread 1: shared_data after increment: 2

B)

Enter the first number:

10

Enter the second number:

5

Choose an operation:

1. Addition

2. Subtraction

3. Multiplication

4. Division

2

Result: 5

C) read syntax

19)

A)

Parent writing to pipe...

Child reading from pipe...

Child received message: Hello from parent!

B) read syntax

18)A)

Enter the number of processes: 3

Enter priority and burst time for each process:

Process 1: 2 5

Process 2: 1 3

Process 3: 3 8

Process	Priority	Burst Time	Waiting Time	Turnaround Time
---------	----------	------------	--------------	-----------------

1	2	5	0	5
2	1	3	5	8
3	3	8	8	16

B) i)

```
$ ./copy_file source.txt destination.txt
```

File copied successfully.

ii)

```
$ ./list_directory directory1
```

file3.txt

subdirectory1

subdirectory2

iii) read syntax

17) a)

Enter the number of processes: 3

Enter the quantum time: 2

Enter arrival time and burst time for each process:

Process 1: 0 6

Process 2: 1 4

Process 3: 2 8

Time	Process
------	---------

0-2	P1
-----	----

2-4	P2
-----	----

4-6	P3
-----	----

6-8	P1
-----	----

8-10	P2
------	----

10-12	P3
-------	----

12-14	P1
-------	----

14-16	P3
-------	----

b)

```
$ bash script.sh
```

Enter the first number:

5

Enter the second number:

3

Choose an operation:

1. Addition

2. Subtraction

3. Multiplication

4. Division

2

Result: 2

c)read syntax

16) A)

Produced item 82 at position 0

Produced item 15 at position 1

Produced item 47 at position 2

Produced item 75 at position 3

Produced item 90 at position 4

Consumed item 82 from position 0

Consumed item 15 from position 1

Consumed item 47 from position 2

Consumed item 75 from position 3

Consumed item 90 from position 4

Produced item 9 at position 0

Produced item 79 at position 1

Produced item 34 at position 2

Produced item 1 at position 3

Produced item 51 at position 4

Consumed item 9 from position 0

Consumed item 79 from position 1

Consumed item 34 from position 2

Consumed item 1 from position 3

Consumed item 51 from position 4

B)

Enter the first number:

10

Enter the second number:

5

Choose an operation:

1. Addition

2. Subtraction

3. Multiplication

4. Division

3

Result: 50

c) read syntax

15) A)

Enter the number of blocks: 3

Enter size of block 0: 10

Enter size of block 1: 20

Enter size of block 2: 30

Enter the number of allocations: 2

Enter size of data to allocate: 15

Data of size 15 allocated at block 1

Enter size of data to allocate: 25

Data of size 25 allocated at block 2

B) read syntax

C) read syntax

14) A)

Enter the number of blocks: 5

Enter the block size: 10

Enter the number of files: 3

Enter the file number to allocate: 1

File 1 allocated at block 0

Enter the file number to allocate: 2

File 2 allocated at block 1

Enter the file number to allocate: 3

File 3 allocated at block 2

Enter the file number to deallocate: 2

File 2 deallocated.

B)

Enter the number of elements:

3

Enter number 1:

5

Enter number 2:

10

Enter number 3:

15

Sum of 3 numbers is: 30

c) read syntax

13) A)

File Name	File Size
-----------	-----------

file1.txt	100
-----------	-----

file2.txt	200
-----------	-----

file3.txt	150
-----------	-----

B)

Enter the first number:

10

Enter the second number:

5

Choose an operation:

1. Addition

2. Subtraction

3. Multiplication

4. Division

3

Result: 50

c) read syntax

12) A)

Enter the number of processes: 3

Enter arrival time and burst time for each process:

Process 1: 0 6

Process 2: 1 3

Process 3: 2 8

Process	Arrival Time	Burst Time	Waiting Time	Turnaround Time
---------	--------------	------------	--------------	-----------------

1	0	6	0	6
---	---	---	---	---

2	1	3	6	9
---	---	---	---	---

3	2	8	9	17
---	---	---	---	----

B) read syntax

11) A)

Enter the number of processes: 3

Enter the number of resources: 3

Enter available resources:

3 3 2

Enter maximum claim matrix:

Process 0: 7 5 3

Process 1: 3 2 2

Process 2: 9 0 2

Enter allocation matrix:

Process 0: 0 1 0

Process 1: 2 0 0

Process 2: 3 0 2

System is in safe state.

Safe sequence: 1 0 2

B)

Enter a number:

5

Factorial of 5 is: 120

C) read syntax

10) A)

Page 7 loaded into frame 0

Page 0 loaded into frame 1

Page 1 loaded into frame 2

Page 2 loaded into frame 0

Page 3 loaded into frame 1

Page 4 loaded into frame 2

Total page faults: 6

B),C) read syntax

9) A)

Page 7 loaded into frame 0

Page 0 loaded into frame 1

Page 1 loaded into frame 2

Page 2 loaded into frame 0

Page 3 loaded into frame 1

Page 0 loaded into frame 2

Page 4 loaded into frame 0

Total page faults: 7

B)

Enter three numbers separated by space:

10 5 8

10 is the greatest.

C) read syntax

8) A)

Reference: 1

Page Number Frequency

1 1

-1 0

-1 0

-1 0

-1 0

Reference: 2

Page Number Frequency

1 1

2 1

-1 0

-1 0

-1 0

Reference: 3

Page Number Frequency

1 1

2 1

3 1

-1 0

-1 0

Reference: 4

Page Number Frequency

1 1

2 1

3 1

4 1

-1 0

Reference: 5

Page Number Frequency

1 1

2 1

3 1

4 1

5 1

Reference: 1

Page Number Frequency

1 2

2 1

3 1

4 1

5 1

Reference: 2

Page Number Frequency

1 2

2 2

3 1

4 1

5 1

Reference: 1

Page Number	Frequency
-------------	-----------

1	3
---	---

2	2
---	---

3	1
---	---

4	1
---	---

5	1
---	---

Reference: 2

Page Number	Frequency
-------------	-----------

1	3
---	---

2	3
---	---

3	1
---	---

4	1
---	---

5	1
---	---

Reference: 3

Page Number	Frequency
-------------	-----------

1	3
---	---

2	3
---	---

3	2
---	---

4	1
---	---

5	1
---	---

Reference: 4

Page Number	Frequency
-------------	-----------

1	3
---	---

2	3
---	---

3	2
---	---

4	2
---	---

5	1
---	---

Reference: 5

Page Number	Frequency
-------------	-----------

1	3
---	---

2	3
---	---

3	2
---	---

4	2
---	---

5	2
---	---

Reference: 3

Page Number	Frequency
-------------	-----------

1	3
---	---

2	3
---	---

3	3
---	---

4	2
---	---

5	2
---	---

Reference: 4

Page Number	Frequency
-------------	-----------

1	3
---	---

2	3
---	---

3	3
---	---

4	3
---	---

5	2
---	---

Reference: 5

Page Number	Frequency
-------------	-----------

1	3
---	---

2	3
---	---

3	3
---	---

4	3
---	---

5	3
---	---

Number of Hits: 10

Number of Misses: 5

B)

Enter the first number:

5

Enter the second number:

3

Choose an operation:

1. Addition

2. Subtraction

3. Multiplication

4. Division

2

Result: 2

c) read syntax

7) A) Enter logical address: 8192

Physical address: 33558528

B), C) read syntax

6) A)

Enter the number of processes: 4

Enter burst times for each process:

Process 1: 6

Process 2: 3

Process 3: 8

Process 4: 4

Process	Burst Time	Waiting Time	Turnaround Time
---------	------------	--------------	-----------------

2	3	0	3
---	---	---	---

4	4	3	7
---	---	---	---

1	6	7	13
---	---	---	----

3 8 13 21

B) i) display the given commands

`./cp source.txt destination.txt`

ii)

`./ls`

iii)

`./grep pattern filename`

5) A) Enter the number of memory blocks: 3

Enter the size of each memory block:

Block 0: 200

Block 1: 300

Block 2: 400

Enter the size of the process: 250

Memory allocated at block 1

B) ,C) read syntax

4) A) Enter the number of memory blocks: 4

Enter the size of each memory block:

Block 0: 200

Block 1: 300

Block 2: 400

Block 3: 500

Enter the size of the process: 250

Memory allocated at block 3

B) , C) read syntax

3) A)

Enter the number of memory blocks: 4

Enter the size of each memory block:

Block 0: 200

Block 1: 300

Block 2: 400

Block 3: 500

Enter the size of the process: 250

Memory allocated at block 0

B) Enter a number:

5

5 is odd

C) read syntax

2) A)

Allocated block 0 to file.

Allocated block 1 to file.

Allocated block 2 to file.

File Index: 0 1 2

B), C) read syntax

!) A) File Index: 0 1 2

B), C) read syntax