



Date

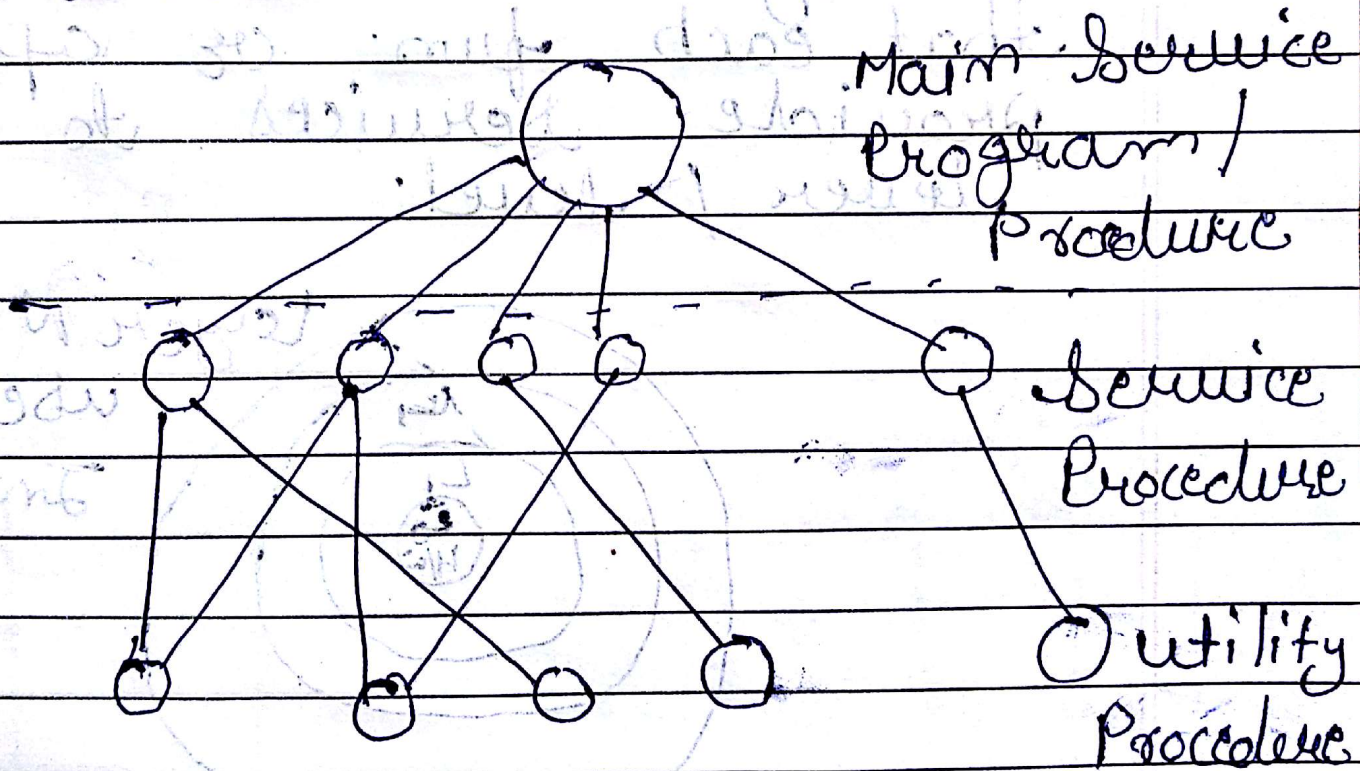
Page No.

Q.1 Explain Monolithic and layered O.S. Structure?

O.S. Structure $\Rightarrow$

1. Monolithic O.S
2. Layered O.S
3. Virtual O.S
4. Micro - Kernel
5. Exo - Kernel
6. Client - Server Model

1. Monolithic O.S $\Rightarrow$

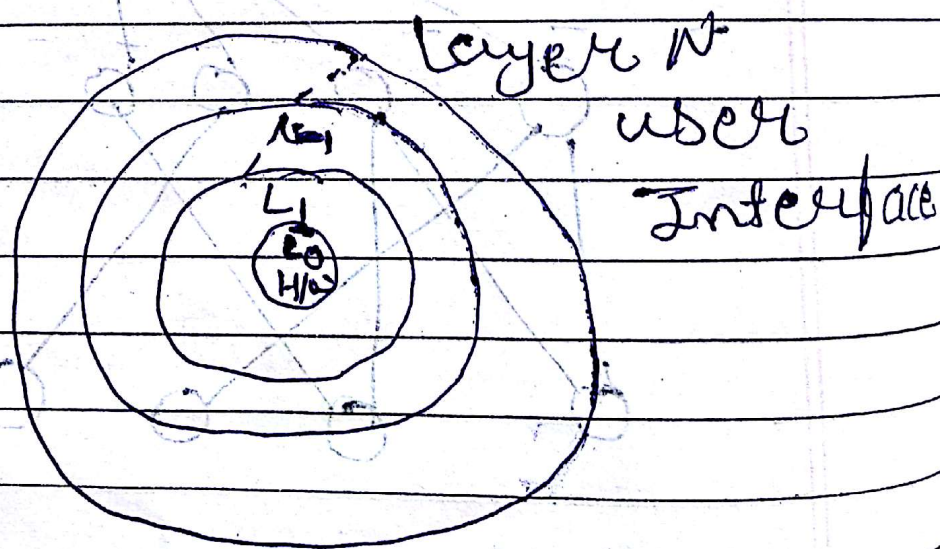


Main program that invokes that requested service procedure a set of service procedure that carry out system process. Set of utility procedure that

2. Layered O.S :- In which the O.S broken into no. of layers or levels.

bottom layer (L₀) → Hardware
 highest layer (L_N) → User Interface

The layers are selected so that each fun. or operations provide services to layer / level.



Layers

5

4

3

2

1

0

function

User Interface

User program

I/O Management

Operator process

Memory management

processor allocation

Multi-programming

Q.3 Explain thread concept in o.s.

Threading $\Rightarrow$

It is also called light weight process. It is an independent part of process which does not share common data. Each of these pieces of process run in parallel to other.

User level thread $\Rightarrow$

When threads are managed in user space, each thread has its own private thread table.

user mode	Threads program counter
	Stack pointer
kernel mode	registers / memory etc.

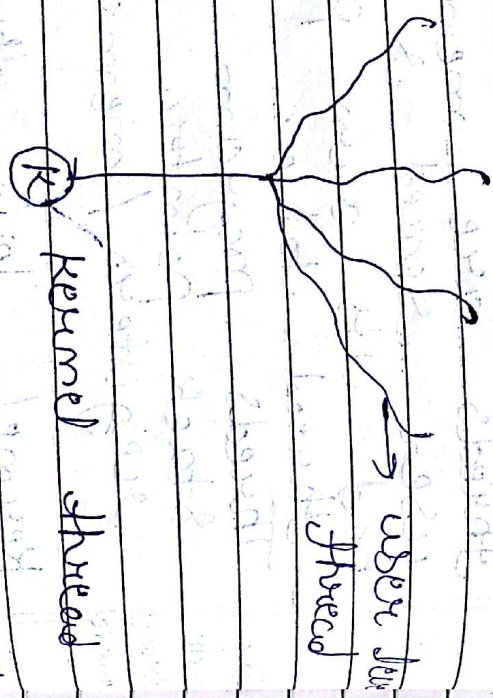
Kernel level thread $\Rightarrow$

It is behave as virtual city there no thread table in each process.

There information is same as user level threads.

Multithread model $\Rightarrow$
 Many to one model
 one to many model
 many to many model

Many to one model $\Rightarrow$ This model makes many user level thread to kernel level thread.



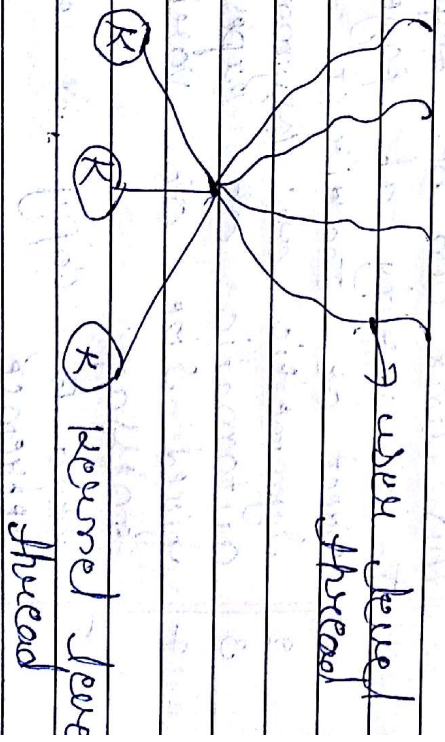
one thread can access the kernel at a time
 multiple threads are unable to run in parallel
 on multiprocessor.
 one to one $\Rightarrow$

user level



It allows multiple threads to run ~~many~~ in parallel on multiprocessor.

Many to Many $\Rightarrow$



This model makes many user thread to equal no. of kernel threads in parallel on a multiprocessor.

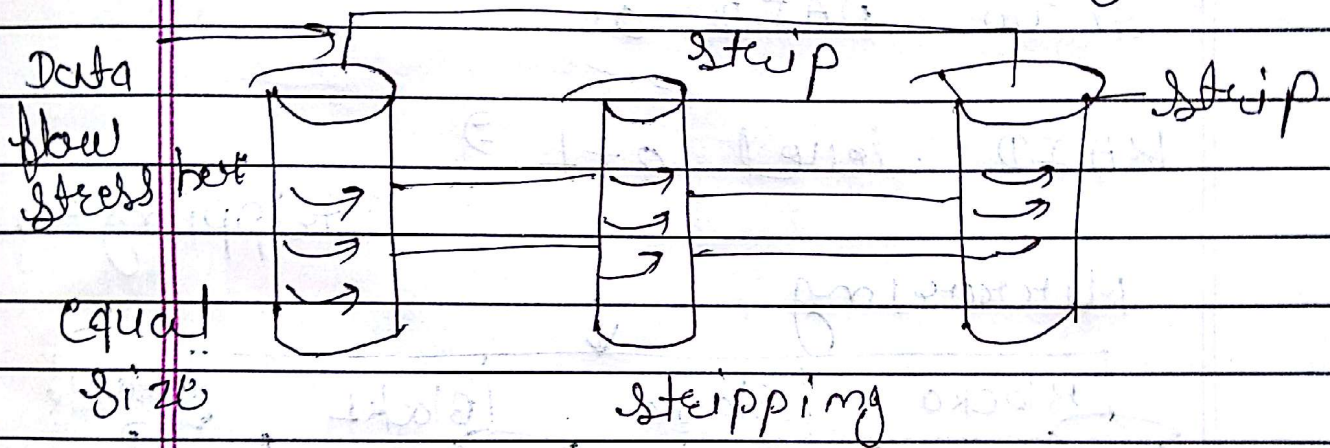


Q.4 Explain RAID level's in detail

RAID level zero $\Rightarrow$

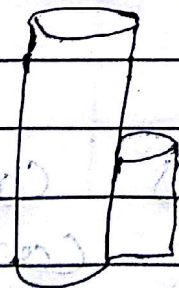
In striping which is writing data in equal size segment across the physical disk.

RAID level 0 doesn't provide data redundancy.



data is stored disk alternately.

RAID level one $\Rightarrow$



Mirroring

RAID one is the form of maintaining

redundant data

or data is

mirrored or

duplicated on one or more

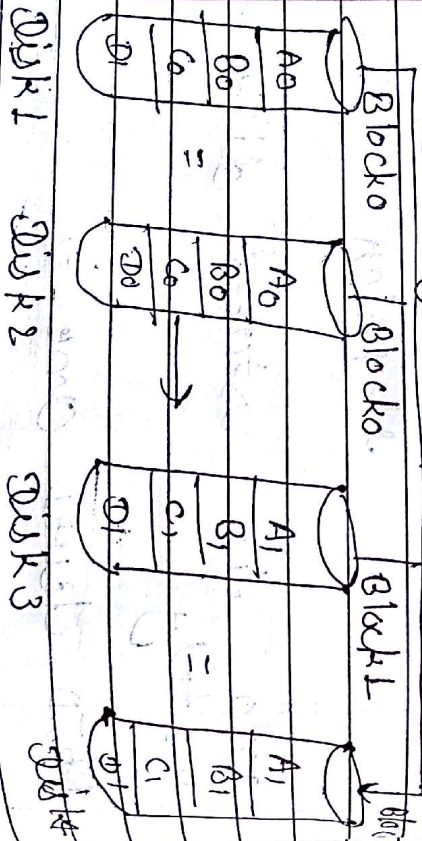
Physical disk.

Advantages:-

Data is replicated on the disk. no data failure. Better read performance. But it is more expensive than RAID 0.

RAID Level 0 + 1

Mirroring

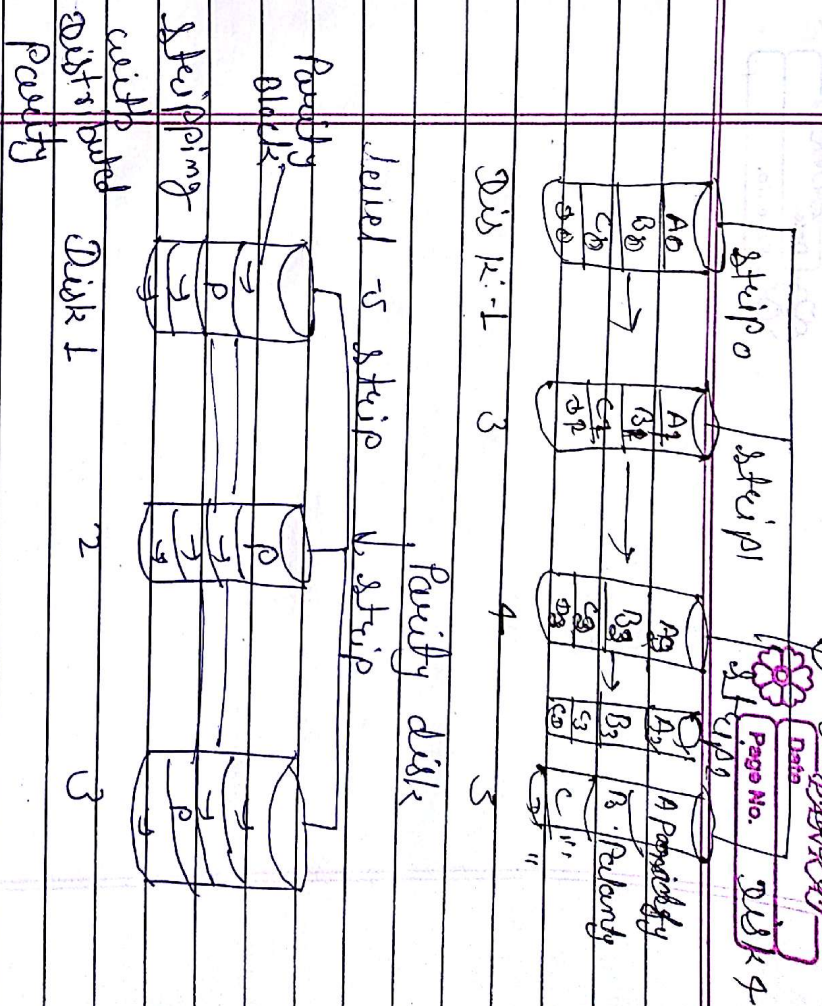


Striping

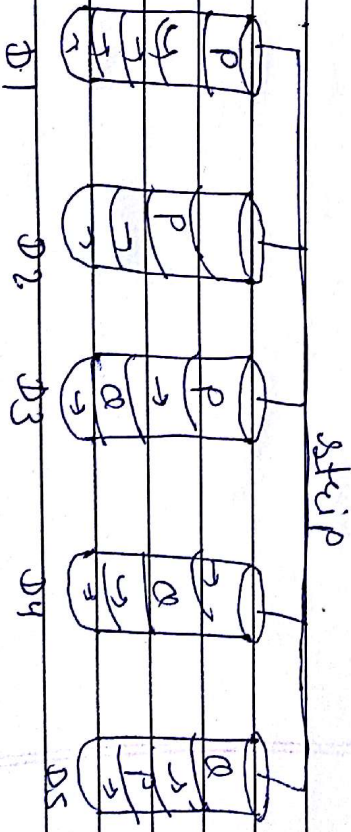
RAID - 3:-

That is called

striping with complete data redundancy.



RAID - 6 Extension of RAID-5



Striping with IInd parity distributed scheme