

Q[2] Fill in the blanks below:

(1) The OS acts as an intermediary between the running program and the bare hardware machine.

(2) The software that interprets the machine language instructions is Micro programming ?

(3) In spooling the I-O of one job is executed with other jobs.

(4) Two types of multiprocessor systems are parallel Sys. and Distributed Sys.

(5) The table generally stored in low-memory that contains pointers to some service routines is called Interrupt vector.

(6) The type of I/O in which after the I/O starts and control returns to the user program without waiting for the I/O to complete is called asynchronous.

(7) The OS services are provided in two basic methods, program system and system program.

(8) The major parts of the process are Stack,

Code section, and data section.

(9) The number of processes in memory is called degree of multiprogramming.

(10) The number of jobs that finish execution in unit of time is called the Computer throughput.

(11) The time required for the CPU to change from one process to another is called

Context switch time.

(12) A thread consists of:

Program Counter, register set,
Stack Space

(13) The thread share with its peer threads:

Code Section, data section

Resource ~~Source~~ Source of OS.

(14) The job with many short CPU bursts is called Short term process (I/O bound)

but the job with few long CPU bursts is called CPU bound

(15) In a one-to-one relationship between user and kernel threads, the main advantage is

throughput, while the main disadvantage is cost.

Q[3] (a) Define a privileged instruction.

Instructions running in monitor mode. Just means please interact ~~user~~ in it.

privilege Inst: when happen interrupt or fault in operating syst. (execution on behalf itself).

- Read the computer clock ~~non-privileged~~
- Set the computer clock ~~non-privileged~~
- Set the computer timer ~~privilege~~
- Switch from user to monitor mode ~~privilege~~
- Clear memory ~~non-privileged~~

(b) (i) Define Cache memory.

take Copy of information or data in faster memory. from original position.

Such as ~~cash~~ register for cash/or memory for HardDisk

(ii) Give two examples of cache in the system

memory is cash for HD

(1) Memory is cash for Hard disk.

Cash

(2) Register is ~~cash~~ for seeing faster from cash itself

(c) (i) What is an interrupt ?

Signals sends to cpu for some request or service that's happen from hardware or software.

Some examp.: Divid by zero / accomplish IO / Invalid memory access / Request for OS service

(ii) What kind of interrupts the following two pieces of codes might generate. Explain.

```
(*)
:
A = 0
read customer-ID into B
C = B / A
:
```

Divid zero. (this software interrupt)

```
(**)
:
A = 0
While A > 0 Do
C = 1
:
```

into loop

and dont doing thing

Because A ~~#0~~

Software int

A zero, while

Q[4] Using diagrams only, explain:
 (a) Process Major States

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process have many states.

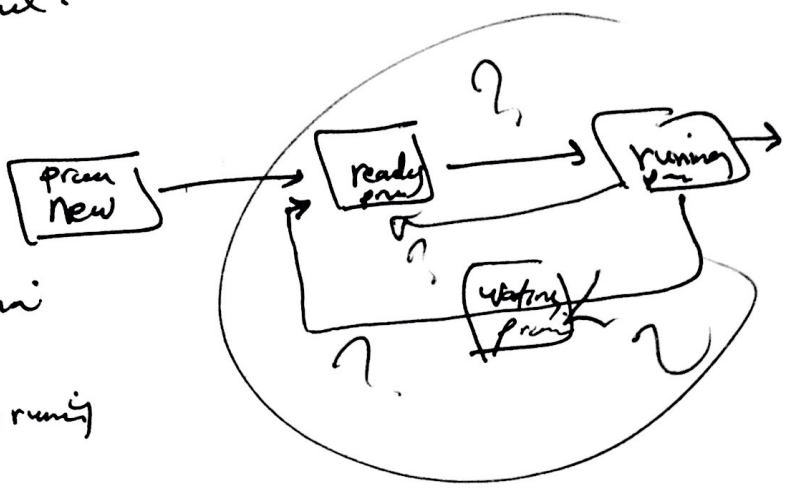
new process: created newly.

Ready process: Ready to run but haven't CPU etc.

Running process: ~~has~~ has CPU execution

waiting process: waiting I/O job to be ready to run

Termination process: finish execution



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(b) Interrupt vector

It's aspect in memory that has address of all services routine etc!

when interrupt occurs, the system go to ~~its~~ interrupt vector routine then go to its address and execute the code for this and it produced by system. Can't access program.

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By interrupt vector can define the it address and know what its interrupt ^{what is} happening

A

