

CS604 Operating Systems Assignment No 1

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IDEA SOLUTION!

Question 1: [Marks 10]

Let us consider a situation in which functionality is placed in device controller instead of keeping that functionality in kernel. Write down any two advantages and any two disadvantages of this scenario.

Question 2: [Marks 5]

Let us consider a scenario in which a job/process loses its ability of using a CPU when it gets rolled out of memory.

Explain a scenario in which a job/process loses its ability of using a CPU without getting rolled out of memory.

Solution:-

Device controller

A Device controller or program operator is a aspect of a pc that is practical of the alerts going to, and coming from the CPU.

There are many program remotes in a pc. Any program linked with the pc is linked by a plug and plug, and the plug is linked with a program operator. Device remotes use binary and digital codes. Each program operator has a regional barrier and a control register. It conveys with the CPU by interferes with. A lamps operator performs an important part in the operation of

that device; it functions as a link between the product and the os.

I-O devices are generally contains two parts. One is technical and another is electric aspect.. This electric aspect is known as a program operator and can be take form of processor on pcs.

Device-Operating System Communication

The Device Controller gets the information from a linked program and stores it momentarily in some special purpose signs up (i.e. regional buffer) inside the operator. Then it conveys the information with a Device Car owner. For each program operator there is an equivalent program driver which is the standard program through which the product operator conveys with the Managing Systems through Interrupts. Device operator is components whereas program driver is software. The controller's job is to turn the sequential bit flow to block bytes and perform any mistake modification necessary.

The Kernel

Kernel is the main part of most computer handling systems; it is a link between programs and the actual computer done at the elements stage. The kernel's obligations include handling the body sources (the interaction between application and elements components.Usually, as a basic part of an os, a kernel can provide the lowest-level abstraction part for the sources (especially processor chips and I/O devices) that application must control to perform its function. It typically makes these features available to program procedures through inter-process interaction systems and program calls.

Operating program projects are done in a different way by different popcorn kernels, based on their design and execution. While monolithic popcorn kernels perform all the os value in the same address area to increase the performance

of the program, microkernel's run most of the os services in user area as hosts, trying to improve maintainability and molecularity of the os.[2] A range of opportunities prevails between these two extreme conditions.

