

To access the services of the operating system, the interface is provided by the:

- a. Assembly instructions
- b. Mailboxes
- c. System calls**
- d. Library

The operating system used in PCs is usually with the goal of

- a. Maximizing the Work (or play) that the user is performing.**
- b. Maximizing battery life.
- c. Maximizing resource utilization
- d. Running without user intervention

Shared memory IPC model

- a. Is hardware to implement than message passing for interprocess communication
- b. Can be used only multi-processor systems
- c. Is slower than message passing
- d. Is easier to implement than message passing for interprocess communication**

We can also view a computer system as consisting of

- a. Kernel, users, and data.
- b. Hardware, software and user.**
- c. Kernel, software, and users
- d. Hardware, users ,and data

The operating system used for handheld devices is usually designed with the goal of

- a. Maximizing performance and battery usage considering individual usability**
- b. Maximizing resource utilization
- c. Running without user intervention
- d. Maximizing work

A program is

- a. passive entity**
- b. A process in execution
- c. A thread in ready queue
- d. An active entity

The operating system used in embedded computers used in home devices and automobiles are designed primarily

- a. Run without user intervention.**
- b. To serve multiple users.
- c. Maximizing the work (or play) that the user is performing
- d. To maximize resource utilization

To change the mode of execution from user to system mode we:

- a. Run another program [monitor]
- b. Change the program name

**c. Invoking a system call interface**

d. Change the program location

**User's view of the computer varies according to the**

a. Type of CPU used.

b. Application programs installed.

**c. Interface being used.**

d. Type of kernel used.

**The OS will create a PCB for each process, which may include the following sections**

a. Ready queue values and I/O queue values.

b. Job queue values and APIs interface.

**c. Data , heap and stack and CPU register value and memory limits.**

d. Process state, process number, process size.

**is interprocess communication?**

**a. Communication between two process**

b. Communication within the process

c. Communication between two system calls

d. Communication between two threads of same process

**The operating system controls the hardware and coordinates its use among**

a. Different kernel programs

**b. Various applications and various users.**

c. Different operating systems

d. Different users

**The PCB is also know as**

a. Program control block.

b. Job CPU block.

**c. Process control block.**

d. Processor control block.

**The basic hardware computing resources of an operating system includes:**

a. CPU.

b. Memory.

c. Input/output (I/O).

**d. All the above.**

**In multiprocessor systems if one CPU handles all scheduling decision, I/O processing, and other system activities then this load distribution is known as**

**a. Asymmetric multiprocessing**

b. Symmetric multiprocessing

c. Master server

d. Scheduling

**The PCB contains information about the program counter, which**

- a. Counts the number of processes currently available
- b. Indicates the memory address of the next instruction to be executed for this process**
- c. The number of the CPU that will execute the process
- d. Indicate the program ID in memory

**A process is**

- a. A program in execution.**
- b. A program after compilation.
- c. Passive entity.
- d. A set of instruction written by assembly language.

**In a symmetric multiprocessing (SMP)**

- a. All processor are peers
- b. Each processor has it is own memory
- c. All processor share the same memory**
- d. Master processor control the system

**The operating system provides the means for**

- a. Coordinating the use of different application program installed by the users.
- b. Proper use of resources in the operation of the computer system.**
- c. Users to use the kernel directly
- d. Hardware to use existing software in the computer system.

**The processes that are residing in main memory and are ready and waiting to execute are put into**

- a. CPU
- b. Read queue**
- c. Job queue
- d. Ready state

**When a process is terminated**

- a. The OS will put it back in the ready queue
- b. The process state will change to waiting
- c. The OS will exit and the process will return all resources
- d. The process will exit and all resources are returned to the OS**

**SMP systems with separate physical processors in comparison to those that use multicore processors are**

- a. Faster and consume more power.
- b. Slower and consume more power.**
- c. Slower and consume less power.
- d. Faster and consume less power.

**A process can spawn several sub-processes, this is known as**

- a. Event a child.
- b. Interrupt.
- c. Fork a child.**
- d. Fork a program.

**An operating system is a program that**

- a. **Manages computer hardware and provide a basis for application programs.**
- b. Manages computer software and provide a basis for kernel programs.
- c. acts as an intermediary between the computer user and software.
- d. manages the kernel and provide all application program.

**Three are two fundamental models of interprocess communication**

- a. multiprogramming and time-sharing.
- b. CLS and GUI.
- c. **Shared memory and message passing model.**
- d. Internet and network.

**Which one of the following error will be handle my the operating system?**

- a. Power failure
- b. Lack of paper in printer
- c. Connection failure in the network
- d. **All of the mentioned**

**The main advantage of shared memory model over message passing IPC model is that**

- a. It is useful for exchanging smaller amounts of data, because no conflicts need be avoided.
- b. It needs a mailbox.
- c. **It is faster because it requires only memory access system call.**
- d. It does not allows maximum speed and convenience of communication.

**When a CPU interrupted it:**

- a. Stop executing and wait interrupt.
- b. **Determines which type of interrupt has occurred and transfers control to the interrupt-services routine.**
- c. Stop what it is doing and transfer execution to a fixed location.
- d. Output the interrupted program on output device.

**In a Multiprogrammed environment the CPU**

- a. Would execute several processes in parallelism
- b. Would execute two processes at the same time
- c. **Would switch to another process**
- d. Would sit idle if the current running process executes I/O

**The text book of this course is:**

- a. Software engineering
- b. Operating system
- c. Modern operating systems
- d. **Operating system concepts**

**When the OS creates a "new" process, it will be**

- a. Go into waiting state until the OS reschedule for running.
- b. Run by the OS.
- c. Fork a child process.
- d. Admitted to the ready queue.

**To execute program it should be in:**

- a. Register
- b. Cash memory
- c. Secondary storage
- d. Main memory

**In non-multiprogrammed environment the CPU**

- a. Woul execute two processes at the same time.
- b. Would execute several processes concurrently
- c. Would sit idle if the current running process executes I/O
- d. Would switch to another process until the first finishes I/O

**There are two fundamental models of interprocess communication**

- a. Internet and network.
- b. **Shared memory and message passing model.**
- c. CLI and GUI.
- d. Multiprogramming and time-sharing.

**The PCB is**

- a. associated information for process that used by the OS to track several processes stored in RAM.
- b. a control block that contains all the program instructions.
- c. a block of memory on secondary storage that contains the process's instructions , data, heap and stack
- d. processor (CPU) information needed to control a block of memory

**shared memory IPC model**

- a. is harder to implement than message passing for interprocess communication.
- b. can be used only on - processor systems.
- c. is slower than message passing.
- d. Is easier to implement than message passing for interprocess communication.

**A process generally also includes heap section, which may contain Select one a**

- a. global variables
- b. process state, process number , process ID, CPU register values and memory limits.
- c. **values in memory that is dynamically allocated during process run time.**
- d. current activity, as represented by the value of the program counter and the contents of the CPU registers.

**What is interprocess communication?**

- a. **Communication within the process**
- b. Communication between two process

- c. Communication between two system calls

The process that are residing in main memory and are ready and waiting to execute are put into

- a. **Ready queue**
- b. Job queue
- c. Ready state
- d. CPU

Suppose that you have a process which contains 50% parallel part, 50% sequential part and 1 core CPU calculate the speed up you execute the same process on a 4 core CPU:

- a. **1.6 times**
- b. 4 times
- c. 2 times
- d. 1 times

The time required to create a new thread in an existing process is

- a. Equal to the time required to create a new process
- b. Greater than the time required to create a new process
- c. Can not create a new thread
- d. **Less than the time required to create a new process**

Thread cancellation that allows that thread to periodically check if it should be is known as

- a. Synchronous cancellation
- b. Simple cancellation
- c. **Differed cancellation**
- d. Asynchronous cancellation

For a 4-core, 3-threaded CPU, the operating system will see a total of

- a. 3 logical processors
- b. **12 logical processors**
- c. 4 logical processors
- d. 7 logical processors

Which of the following is not shared by threads

- a. Data
- b. **Program counter and stack**
- c. Code
- d. Files

When multiple computing cores are placed on a single processing chip where each core appears as a separate CPU operating system is called

- a. **Multicore system**
- b. Single core system
- c. Multi-CPU system
- d. Single CPU system

System's view point of an operating system could be mainly viewed as

- A. **Resource allocator.**
- B. Any application program.
- C. Software manager
- D. Part of the computer's hardware.

**The main advantages of multiprocessor systems are**

- A. Decreased reliability, economy of scale and decreased throughput
- B. Economy of reliability, increased scale, and increased throughput.
- C. Increased reliability, economy of sale, and decreased throughput.
- D. **Increased throughput , increased reliability , and economy of scale .**

**The intermediate data structure between user and kernel threads that used maintain the appropriate number of kernel threads allocated to the application is known as**

- a. **LWP(lightweight process)**
- b. Pthread
- c. Cancellation point
- d. Dispatcher

**When multicore programming distributes threads across cores, and each thread performing unique operation is called**

- a. **Task parallelism**
- b. Data splitting
- c. Threading
- d. Data parallelism

**A thread to be canceled is to as**

- a. Canceled thread
- b. Asynchronous thread
- c. **Target thread**
- d. Differed thread

**A process can be:**

- a. **Single threaded and multithreaded**
- b. Multithreaded only
- c. Not threaded
- d. Single threaded only

**When multicore programming distributes subsets of the same data across multiple cores, that perform the same operation on each is called**

- A. **Data parallelism**
- B. Data splitting
- C. Threading
- D. Task parallelism

اعداد الطالب:  
فراس معتصم  
عباس محفوظ