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| **SEMESTER** | | | **Spring** | **BSCS-5A** | | **2022** |
| **TITLE OF PROJECT** | | | | | | |
| **Process Synchronization** | | | | | | |
| **Group Members** | | | | | | |
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| **What is Process Synchronization** | | | | | | |
| **Process Synchronization** is the task of coordinating the execution of processes in a way that no two processes can have access to the same shared data and resources.  It is specially needed in a multi-process system when multiple processes are running together, and more than one processes try to gain access to the same shared resource or data at the same time.  Processes have to be scheduled to ensure that concurrent access to shared data does not create inconsistencies. Data inconsistency can result in what is called a race condition. A race condition occurs when two or more operations are executed at the same time, not scheduled in the proper sequence, and not exited in the critical section correctly. | | | | | | |
| **Proposed Project** | | | | | | |
| The main purpose of synchronization is the sharing of resources without interference using mutual exclusion. The other purpose is the coordination of the process interactions in an operating system. Semaphores and monitors are the most powerful and most commonly used mechanisms to solve synchronization problems.  Our proposed project is to design 3 methods through which process synchronization can be achieved and to avoid the conditions such as Deadlocks, Race conditions, producer consumer problem etc.  And our main object is to not slow down the process execution but to make the process synchronized. We’ll use different methods which will determine the priority of the processes and execute them depending on those priorities. | | | | | | |
| **TEAM PROFILE** | | | | | | |
| ***SYED SHAHEER HASSAN:***   * **Qualifications:** HSC (Pre-engineering) from Govt. degree college For Men Nazimabad, Karachi (UNDERGRADUATE) * **Qualities/Strengths**: * Programming, graphic designer, disciplined, team-player, communication ability, time-management and strategic planner   ***KAMAL KUMAR:***   * **Qualifications:** * HSC from Govt. Degree College Boys & Girls Majeed SRE III, Stadium Road, Karachi. (UNDERGRADUATE) * **Qualities/Strengths**: * Programming, Website developer, Communication ability, Technical advisor   ***MOHAMMAD HAMMAD AHMAD:***   * **Qualifications:** * HSC from Caspian College, Karachi. (UNDERGRADUATE) * **Qualities/Strengths**: * Mobile app developer, Documentation in charge, Disciplined | | | | | | |