FIF0 - Assignments

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| 1. | **Multi–Data Service centers Server:** AMulti–Data Service centers Server S provides three Data service servers with executable files as D1.exe, D2.exe, and D3.exe. All the Clients first send request to well-known point of Multi–Data Service centers Server S. The Clients also inform server S, about the data service number they would like to use as numbers 1, 2, and 3. Depending on the data service number request from Client, server S arranges a separate corresponding Data service sever Di (if it is not existing), and the Client receives the data of standard output of Data service server Di as shown in figure below. If such Di is already existing, then sever S will not create a new Di , but it arranges that the Client receives the data of standard output of Data server Di it has requested. Suppose at the moment three Clients C1, C3, C5 requested for D1 service and C2, C4 requested for D3 service, one D1 process and one D3 process along with main sever process S will be existing in the scenario as shown in figure below. In other words, only one data service server process will exist, regardless of the number of client requests for it.  Implement Multi–Data Service centers Server S, D1, D2, D3 data service servers and Client. |
| 2. | **ABC service provider:** S is a server process which supposes to offer a service s(), by listening to well-known point, but it does not offer the service on its own. There are three service provider server processes A, B, C in the same computer system. Process A is child of process S, whereas process B and process C are not children of S and A. ( B, C are unrelated processes). All the four processes will be running (existing) before the arrival of first client request.  As soon as the first client request arrives for a service, the server process S informs the process A to start accepting and serving clients for the service. After process A accepts four clients, it stops accepting and also it sees that now, process B should start accepting and serving clients for the service.After process B accepts four clients, it also stops accepting and it sees that now, process C should start accepting and serving clients for the service.Soon after process C accepts four clients, it stops accepting and also it makes process S to know this. Now process S asks the user to continue or not. If the user enters ‘Y’ , then process S again starts the offering of service starting from A. Otherwise his flow is stopped.  Implement all the different processes in this scenario and client process.  ((Hint : You may have to use almost all the system calls you know so far ) |