1. if we want to write a process that forks the child process in which it become a zombie process. Firstly, we should declare the header file #include <unistd.h> . Secondly we assign fork to pid to create a new process so if process failed, fork returns a value of -1 in the parent process, and it will display a prompt. If the operation was successful, then both parent and child are seen in fork return, but with different values: it returns a value of 0 in the child process and returns the child’s process ID in the parent process. When the code is executed it first go through the parent first and it goes next to child process in which it execute the code in there, and then it goes back to the parent to sleep for 10 seconds. After 10 seconds parent will terminate and go back to main program to terminate by return 0; statement.

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1. The main motto of this code is to make a zombie process without entering the commands ps and kill manually. We use function int system(const char \*command) which passes the command name or program name specified by command to the host environment to be executed. After forking, in child process we (a)create a zombie process by calling another C program which is “./assignment\_2a”.then we sleep the child for 10 seconds to prevent making a second zombie. In Parent, (b) we obtain the state of each process and find if there’s any zombie process by calling the function system()and (c)inserting the required commands like ps –l to show the state of each current running processes, you can see it in table2 in second column which is state donate with S.A process in R state stands for running. A process in Z state means it’s a zombie process. “echo” command its purpose to output status text to the screen in shell script. (d) to kill the parent of any process that is zombie , by this statement it does the kill system("kill -9 $(ps -l|grep -w Z|tr -s ' '|cut -d ' ' -f 5)"). ‘Grep –w ’ means it searches for the exact word for Z. ‘tr –z ‘ ‘ ’to delete all the white spaces. ‘cut –d ‘ ‘ –f 5 ’ is to restore the pid,ppid ,and state of the zombie process. (e) to show the updated list of processes with their states after the kill has been done by “ps –l ”.

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