# MultiProcessing Assignments - 1

1. Write a multiprocessing application to perform the following.
2. Application to receive an input file name as command line argument.
3. Store the filename in a buffer.
4. Create a child using fork().
5. Display the process id of both parent and child
6. Let child prompt and read 2 lines from user and write to input file and exit.
7. Let parent after fork() do the following

* wait for child to complete.
* open input file name, read and display the contents

1. Add a function below and call it from parent after wait()

/\*Using WIFEXITED macro check if the child has exited and in such case extract exit code and display,

Else, use WIFSIGNALLED macro to check if the child was terminated using signal (say using SIGINT) then the retrieve and display the signal number

which caused the exit \*/

process\_display\_exit\_code(int exitstatus)

[Hint: to test above function you may send a kill signal to child process]

1. Refer the code snippet below and answer the queries.

int g\_value =10; /\* global variable \*/

int main()

{

int pid;

int l\_value =5;

printf(“Writing a sample code\n”);

pid = fork(); /\* fork() returns 0 to child process and process id of child to parent process\*/

if(0 == pid)

{

printf(“For child Local variable value=%d\n and global variable value=%d\n”,l\_value,g\_value);

exit(0);

}

else

{

printf(“For parent Local variable value=%d\n and global variable

value=%d\n”,l\_value,g\_value);

}

printf(“Code common for both parent process and child process\n);

return 0;

1. What will be the output of parent process and child processes?

**Ans:** **Output for parent process:**

Writing a sample code

For parent Local variable value=5

and global variable value=10

5,10

Code common for both parent process and child process

**Output for child process:**

For child Local variable value=5

and global variable value=10

5,10

Code common for both parent process and child process

1. Find out whether the value of local variable and global variable value will be same for both parent process and child process.

**Ans:** Yes, the value of local and global variable value will remain same for both the parent and child process.

1. Will the order of execution be same always or could be different? Will it impact the output?

**Ans:** The order of execution is decided by the kernel and can change but that is not going to change the output.

1. Why the first printf() statement will be executed only by parent process and not by child process?

**Ans:** fork() is used to create a child process from an existing process, anything written after fork() is shared by both the processes, but anything written prior to fork() is exclusively for the parent process only.

Therefore, the first printf() statement will be executed only by the parent process.