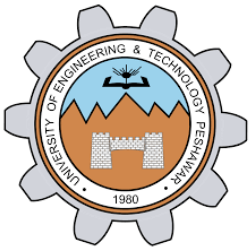
Operating Systems Lab-7

Process Creation and Execution



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Section: "A"

Submitted to:

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University of Engineering and Technology, Peshawar.

CSE 302L: Operating Systems Lab

LAB ASSESSMENT RUBRICS

Marking Criteria	Exceeds expectation (2.5)	Meets expectation (1.5)	Does not meet expectation (0)	Sc
1. Correctness	Program compiles (no errors and no warnings). Program always works correctly and meets the specification(s). Completed between 81-100% of the requirements.	Program compiles (no errors and some warnings). Some details of the program specification are violated, program functions incorrectly for some inputs. Completed between 41-80% of the requirements.	Program fails to or compile with lots of warnings. Program only functions correctly in very limited cases or not at all. Completed less than 40% of the requirements.	
2. Delivery	Delivered on time, and in correct format (disk, email, hard copy etc.)	Not delivered on time, or slightly incorrect format.	Not delivered on time or not in correct format.	
3. Coding Standards	Proper indentation, whitespace, line length, wrapping, comments and references.	Missing some of whitespace, line length, wrapping, comments or references.	Poor use of whitespace, line length, wrapping, comments and references.	
4. Presentation of document	Includes name, date, and assignment title. Task titles, objectives, output screenshots included and good formatting and excellently organized.	Includes name, date, and assignment title. Task titles, objectives, output screenshots included and good formatting.	No name, date, or assignment title included. No task titles, no objectives, no output screenshots, poor formatting.	

Instructor:

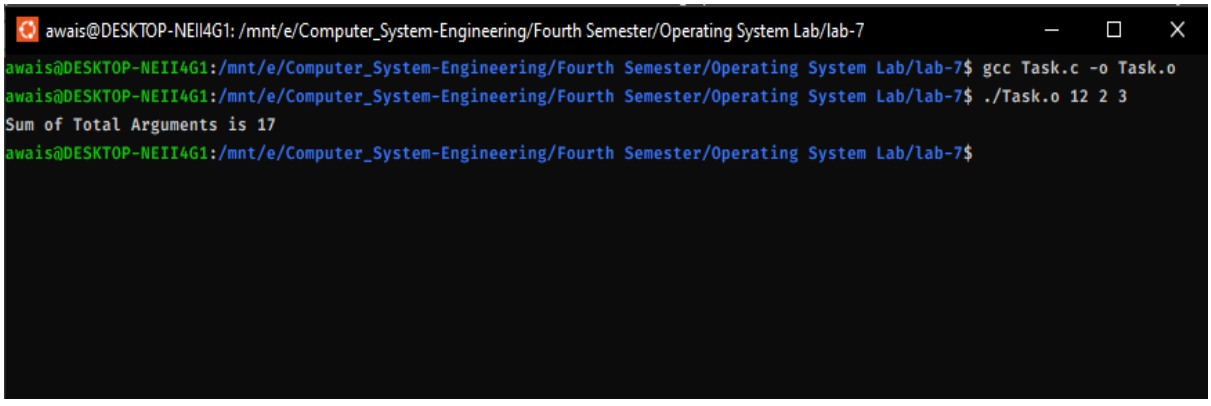
Name: __Engr. Madiha Sher___ Signature: _____

Task #1:

Code:

```c
#include <stdio.h>
#include <stdlib.h>
int main(int totalArguments, char *argumentValue[]){
    int sum=0;
    for(int i=1; i<totalArguments; i++){
        sum+=atoi(argumentValue[i]);
    }
    printf("Sum of Total Arguments is %d \n", sum);
return 0;
}
```

Output:



Task #2:
Code:

```c
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <sys/types.h>
#include <sys/wait.h>
int main(int totalArguments, char *argumentValue[]){
    int pid, i;
    for(i=1; i<totalArguments; i++){
        pid=fork();
        if(pid==0){
            printf("pid is %d and ppid %d\n", getpid(),getppid());
            execlp(argumentValue[i],argumentValue[i], NULL);
            printf("Hello after exec\n");
            break;
        }
    }
        if(pid>0){
            for(i =0; i<totalArguments; i++)
                wait(NULL);
        }
return 0;
}
```

Output:

```
awais@DESKTOP-NEII4G1: /mnt/e/Computer_System-Engineering/Fourth Semester/Operating System Lab/lab-7
awais@DESKTOP-NEII4G1:/mnt/e/Computer_System-Engineering/Fourth Semester/Operating System Lab/lab-7$ gcc Task2.c -o Task2.o
awais@DESKTOP-NEII4G1:/mnt/e/Computer_System-Engineering/Fourth Semester/Operating System Lab/lab-7$ ./Task2.o ls ps pwd
pid is 87 and ppid 86
pid is 88 and ppid 86
pid is 89 and ppid 86
 Lab-7.docx   Task.c   Task.o   Task2.c   Task2.o   Task3.c  '~$Lab-7.docx'
  PID TTY          TIME CMD
   12 tty1     00:00:00 bash
   86 tty1     00:00:00 Task2.o
   88 tty1     00:00:00 ps
   89 tty1     00:00:00 pwd
/mnt/e/Computer_System-Engineering/Fourth Semester/Operating System Lab/lab-7
awais@DESKTOP-NEII4G1:/mnt/e/Computer_System-Engineering/Fourth Semester/Operating System Lab/lab-7$
```

Task #3:

Code:

```c
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <sys/types.h>
#include <sys/wait.h>
int main(int totalArg, char *Argumentvalue[]){
    int i, pid;
    pid=fork();
    if(pid==0){
        printf("pid is %d and ppid is %d\n",getpid(),getppid());
        execlp("./task1.o","task1.o", Argumentvalue[1],Argumentvalue[2],Argumentvalue[3],NULL);
    }
    if(pid>0)
        wait(NULL);

    return 0;
}
```

Output:

```
awais@DESKTOP-NEII4G1: /mnt/e/Computer_System-Engineering/Fourth Semester/Operating System Lab/lab-7
awais@DESKTOP-NEII4G1:/mnt/e/Computer_System-Engineering/Fourth Semester/Operating System Lab/lab-7$ gcc Task3.c -o Task3.o
awais@DESKTOP-NEII4G1:/mnt/e/Computer_System-Engineering/Fourth Semester/Operating System Lab/lab-7$ ./Task3.o 33 55 44
pid is 120 and ppid is 119
Sum of Total Arguments is 132
awais@DESKTOP-NEII4G1:/mnt/e/Computer_System-Engineering/Fourth Semester/Operating System Lab/lab-7$
```

Source: *https://carbon.now.sh/*